

The Commonwealth of Massachusetts

EIGHTEENTH ANNUAL REPORT

OF THE

DEPARTMENT OF PUBLIC WORKS

YEAR ENDING NOVEMBER 30, 1937

*To the Honorable Senate and House of Representatives
of the Commonwealth of Massachusetts:*

In accordance with the provisions of law, I have the honor, as Commissioner of Public Works, to submit the eighteenth annual report of the Department of Public Works for the year ending November 30, 1937.

The organization of the Department, as defined in Chapter 16, General Laws, Tercentenary Edition, was as follows:

Commissioner of Public Works — WILLIAM F. CALLAHAN

Associate Commissioner — RICHARD K. HALE

Associate Commissioner — FRANK E. LYMAN to December 9, 1936;

—FRANK L. KANE beginning December 9, 1936.

Highway construction during the past year has been governed by what is believed to be sound methods of construction and correct principles of design.

The important trend in road design today has been dictated by consideration of the safety factor and this has involved the study of alignment, grades, curves, profiles and intersections. The elimination of sharp curvatures, the clearance between vehicles and the opportunity to pass overtaken vehicles, are items considered to aid in the elimination of hazards.

Road design for important routes provides for multiple lane highways, with wide traffic lanes, with wide center reservations separating opposing streams of traffic, grade separations at important intersections, long sight-distances and other safety factors and appropriate planting of roadsides. Refinements in road design have included improvements in road materials and methods of construction and workmanship, carefully selected subgrade materials, adequate pavement thickness, shoulder and slope finish—which are exemplified by recent construction.

It has been the aim of the Department to make improvements in the highway system deemed most urgent, and to insure that all such improvements shall be the result of definite lines of procedure. The endeavor has been made to coordinate all the phases of the Department's work, including right-of-way, the collection of adequate preliminary data for design as the basis for economic construction and the careful analysis of all conditions and the elimination of confusion in any part of the work for the purpose of avoiding changes in contracts after work has been started.

A survey of present roadbuilding materials indicates wide-spread developments and new methods of application and definite improvement in variety and quality. Laboratory and field experimentation has been conducted by the Department continuously on all construction and maintenance activities. The adaptability of local materials in combination with other products has been of importance in this state.

The task of modernizing the highway transport system necessitates the careful study of road service, materials, design and construction. It is also the aim to meet the requirements of tomorrow and to avoid the risk of early road obsolescence.

The trend in Massachusetts has been toward the construction of the higher type of road surface to meet the volumes and weight of traffic which results from the growing traffic demands.

During the fiscal year 1937 State highway construction and reconstruction included many important projects.

Work was completed on a link in the route connecting the Newburyport Turnpike with the Sumner Tunnel in Boston. The section constructed extends from the traffic circle at the intersection of Squire Road and Broadway in Revere to the Newburyport Turnpike in Saugus at its intersection with Felton Street. The design includes two 30-ft. roadways with the raised type of reservation in the center, and sidewalks on both sides. The project includes two traffic circles, a bridge over the Saugus Branch of the Boston & Maine Railroad, and a bridge and ramps at Lynn Street, Revere. The length of this project is $2\frac{3}{4}$ miles, and the cost approximately \$960,000.

From the northerly end of this project, the reconstruction of the Newburyport Turnpike in Saugus and Lynnfield, U. S. Route No. 1, was completed to a point just north of South Lynnfield Square for a distance of 4.8 miles at a cost of approximately \$1,700,000. The design provides for a divided highway with a 20-foot raised center reservation, on each side of which are three driving lanes totalling 34 feet, a 10-foot parking lane and a $12\frac{1}{2}$ -foot sidewalk area consisting of 4 feet of pavement and the remainder a grass plot. Four feet of the sidewalk area was paved for pedestrian use and the balance is loamed and seeded for grass. At four important intersections grade separations were constructed with connecting roadway ramps to connect with local roads. This is one of the most modern types of highway in the country.

From the northerly terminus of this Newburyport Turnpike project a section of the proposed Northern Circumferential Highway, the future replacement of the present Route 128, was completed to Andover Street in Peabody, a distance of about four miles, including bridge construction at its intersection with Lowell Street in Peabody to provide for traffic separation, at a total cost of approximately \$980,000.

The design is similar to that described for the Turnpike project. It includes two 23-foot pavements, separated by a 16-foot center plot, with graded areas nine feet in width on each side to provide for future widening. Sidewalks have been provided on either one or both sides, as deemed necessary.

South of the Cape Cod Canal, construction and reconstruction of the State highway in Bourne and in Eastham-Orleans, has been completed. In the former town a direct connection has been made between the traffic circle at the southerly end of the Bourne Bridge over the canal and a point further south, on Route 28. In Eastham and Orleans approximately three miles of Route 6, extending easterly from the junction of this route with Route 28, was reconstructed and widened.

In the southern section of the State, on Route 6, at the Dartmouth-Westport line, a long-needed alignment correction has been completed.

In the Connecticut Valley approximately four miles of U. S. Route 5, in Holyoke, has been widened and resurfaced. A sidewalk was constructed for the entire length on one side.

In central Massachusetts another section of the Worcester-Providence Turnpike has been completed for a distance of approximately two miles in the towns of Millbury and Sutton. The design is of the divided roadway type and consists of two 30-foot lanes. Traffic separation was afforded at the only important intersection encountered, by means of bridge and ramp construction.

Work is now under way on the proposed Concord-to-Westminster route, which will be the future Route 2. Approximately $2\frac{3}{4}$ miles in the cities of Leominster and Fitchburg are being graded under the present contract.

In western Massachusetts about two miles of Route 9 on Dalton Avenue in Pittsfield has been widened and resurfaced. The design includes separate roadways for opposite bound traffic, with a raised separating plot in the center. Sidewalks have been provided on one or both sides as considered necessary.

By means of Federal Works Program funds, certain town highways have been constructed on secondary routes. The Marshfield-Pembroke project provides a long-needed connection between Routes 3 and 3A, about five miles having been completed, with a surface of bituminous concrete 40 feet in width. The Attleboro-North Attleborough-Plainville project provided a long-needed direct connection between the city of Attleboro and Route 1 for Boston and northbound traffic. The length completed was 4½ miles, with the pavement 40 feet in width, with sidewalk construction on one side.

With the aid of the same funds a municipal highway approximately 1¼ miles was built on Springfield Street in the City of Holyoke.

Construction of railroad grade crossing eliminations was completed as follows:

Canton	On the N. Y., N. H. & H. R. R.	Dedham Street
Sharon		South Main Street
Sharon		Depot Street
Mansfield		Elm Street
Mansfield		School Street

Work is now under way at Union Street, Braintree and Cocasset Street, Foxborough. In Attleboro, on Route 1, replacement of an inadequate structure was made by the construction of a new steel stringer bridge with the necessary approaches.

On the Fitchburg Division of the Boston & Maine Railroad, work was completed on the elimination of grade crossings on Route 20 in Waltham, on West Main Street in Ayer and on Leominster Road in Lunenburg.

In Ashburnham, on Route 12, near the South Ashburnham station of the Boston & Maine Railroad, a crossing has been eliminated.

On the main line of the Boston & Albany Railroad in the vicinity of Old Flanders Road near the Hopkinton-Westborough line, and on Shrewsbury Street in Shrewsbury near the Grafton-Shrewsbury line, crossings have been eliminated. At Shrewsbury Street, in addition to the new bridge and approaches, a pedestrian underpass was provided. In Huntington, at the crossing of this railroad with Route 112, the construction now underway includes a multiple span steel bridge, which not only spans the railroad but the adjacent Westfield River.

On the Milford branch of the Boston & Albany Railroad at its junction with Route 109, further elimination has been accomplished.

In the city of Worcester, at the so-called Barbers Crossing, on Routes 110 and 12, elimination necessitated extensive relocation of the highway, construction of a steel bridge and a pedestrian underpass.

On Route 1, in Newbury, at the crossing with the tracks of the Boston & Maine Railroad, elimination has been accomplished with the construction of a steel and concrete bridge, with the necessary approaches.

Further elimination has been made in Sheffield on U. S. Route 7, where this route crosses the New York, New Haven and Hartford Railroad, also in the town of Monson on Route 132, at its intersection with the Central Vermont Railroad.

Bridge construction has been one of the important activities during the past year. The program has included seventy-eight (78) new structures built or contracted for, including sixty-six (66) bridges over waterways, seven (7) grade separations at railroad crossings.

The cost of this work has been provided in part from Federal funds and partly from flood relief funds provided by the Commonwealth.

Construction of important bridges with Federal cooperation was begun during the year as follows: the Hadley-Northampton Bridge and the Gill-

Montague Bridge over the Connecticut River; the Central Bridge, Lowell, over the Merrimac River; the Grade Crossing Elimination Projects in Braintree, Huntington and Milford; the reconstruction of the Slades Ferry Bridge over the Taunton River, under the provisions of Chapter 488, Acts of 1935.

Under the provisions of Chapter 90, General Laws, 166 miles of city or town highways were constructed and maintenance was provided on 1117 miles of such roads, involving a total expenditure of about \$4,300,000.

Under the provisions of Chapter 429, Acts of 1936, a total of 115 city and town bridges, destroyed by the floods of 1936, were reconstructed on the force account basis at an estimated cost of \$897,000.

The installation of traffic signals where necessary and the maintenance of those already installed on State highways have contributed to the safety in motor vehicle operation on the highways.

The necessity for approval by the Department of installations by local communities of traffic control matters results in uniformity.

Traffic studies conducted by the Department have been of particular value as indicating the necessity for improvements in the highway system and also in the matter of accident analysis, which in many cases reveal road conditions which may be improved to eliminate hazards. At present a comprehensive highway survey is being conducted to determine further data regarding all phases of highways and the service they render to the communities throughout the Commonwealth, which will be the basis for future designing of highways, and the Department has the cooperation of the Federal Government in this undertaking.

One of the most important services rendered has been the winter maintenance of highways. About 2000 miles of State highways and other important roads are included in the program of winter maintenance, involving the plowing of snow and ice control on these highways.

The Department also maintains about 9012 miles of town ways under the provisions of Section 26, Chapter 81, General Laws.

The Department has had supervision of highway work involving the expenditure of about \$18,000,000, including Federal funds, State appropriations and city and town contributions.

The Department has worked in cooperation with the Federal Road Authorities in the endeavor to carry forward practical highway science as the most satisfactory way to secure adequate highway transport.

Harbor improvements have included dredging the channel in Weymouth-Fore River Bridge, above Weymouth-Fore River Bridge, dredging in Malden River and other minor channels in Boston Harbor.

Outside of Boston Harbor dredging in numerous small harbors along the coast and shore protection has been completed at many locations.

Of particular interest is the construction of the new Gloucester Fish Pier, which is being constructed on the P.W.A. basis in cooperation with the Federal Government, which has allotted \$540,000 for this project to be used with the State's \$600,000 appropriated by the General Court. Upon completion, this pier and the buildings erected thereon will be leased for a term of years to the fish industry.

It is believed that the Department has achieved definite improvement in the methods of contract control, including improvement in specifications, and has advanced its knowledge of materials and methods of construction and maintenance gained through research and it has thereby advanced the science of roadbuilding, so that the Commonwealth will be assured of a high character of roadbuilding activities.

The engineering and clerical staff of the Department was as follows:

Chief Engineer, GEORGE H. DELANO

Highway Engineer, (Projects), FRANKLIN C. PILLSBURY¹

Highway Engineer, (Construction, State Highways)

RAYMOND W. COBURN

Highway Engineer, (Construction, Chapter 90 roads)

WILLIAM F. DONOVAN

Highway Engineer, (Maintenance), JAMES E. LAWRENCE

Highway Engineer, (Traffic), EDGAR F. COPELL

Bridge Engineer, GEORGE E. HARKNESS

District Highway Engineers:—

District No. 1, GEORGE A. CURTIS—Berkshire County and the towns of Worthington, Middlefield and Huntington in Hampshire County, and the towns of Chester, Montgomery, Russell, Blandford and Tolland in Hampden County.

District No. 2, H. D. PHILLIPS² W. G. BURNS³:—Franklin, Hampshire and Hampden Counties, with the following exceptions; three towns in Hampshire County included in District No. 1, and ten towns in Hampden County included in Districts Nos. 1 and 3.

District No. 3, JOHN A. JOHNSTON⁴ M. J. DALTON⁵—Worcester County and the towns of Brimfield, Holland, Monson, Palmer and Wales in Hampden County.

District No. 4, F. D. SABIN—Middlesex County.

District No. 5, JOSEPH A. MCCARTHY—Essex and Suffolk Counties.

District No. 6, H. O. PARKER—Norfolk and Bristol Counties.

District No. 7, JOHN E. TROY—Plymouth, Barnstable, Dukes and Nantucket Counties.

District Waterways Engineer, for Boston Harbor—JOHN N. FERGUSON.

District Waterways Engineer, for harbors and waterways outside Boston Harbor—FRANCIS L. SELLEW.

Secretary, MARY A. RILEY.

Department Business Agent, FRED FAIR

Registry of Motor Vehicles

Registrar, FRANK A. GOODWIN.

Deputy Registrar, ANTHONY A. BONZAGNI

Assistant to the Registrar of Motor Vehicles., ALFRED W. DEVINE.

Chief Administrative Clerk, CHARLES R. GILLEY.

Chief Inspector of Motor Vehicles, ALBERT S. OLSSON.

A detailed report of the activities of the Department for the year is presented herewith.

WILLIAM F. CALLAHAN,
Commissioner of Public Works.

December 1, 1937.

SPECIAL REPORTS TO THE LEGISLATURE

The Department was authorized and directed by the Legislature to make certain investigations, and the reports thereon were made as follows:

Improving Harbor and Terminal facilities in the city of Fall River. Report made Dec. 2, 1936, by the Department of Public Works under Chapter 15, Resolves of 1936 (H 228 of 1937).

Construction of a breakwater and making other improvements for protection of the shore at Truro. Report made Dec. 2, 1936, by the Department of Public Works under Chapter 54, Resolves of 1936 (H 229 of 1937).

Relative to a State Highway over the route of the old Middlesex Turnpike so called from Maple St. in Lexington to North Chelmsford, including estimates of cost. Report made Dec. 2, 1936, by the Department of Public Works under Chapter 71, Resolves of 1936 (Sen. 35 of 1937).

¹ Died ... May 15, 1937

² Until ... June 30, 1937

³ Appointed ... July 1, 1937

⁴ Until ... June 30, 1937

⁵ Appointed ... July 1, 1937

RECOMMENDATIONS FOR LEGISLATION

The Commissioner of Public Works presented to the State Secretary on December 1, 1937, as required by law, that part of the current annual report which contains recommendations or suggestions for legislative action as follows:

1. In order to avoid confusion in the matter of liens on contracts for Public Works it has become evident that the provisions of law relating to liens on State Public Works contracts, as incorporated in Section 39, Chapter 30, General Laws, should likewise be made applicable to county or municipal public works contracts. It is, therefore, recommended that an amendment be made to Section 29, Chapter 149, General Laws, to provide for this, so that rental of vehicles, tools, and other appliances may become a lienable item on county and municipal contracts as well as on State Public Works contracts.

In order to expedite the work of the Department including the construction, reconstruction and maintenance of state highways and improvement of town and county ways under the provisions of Chapters 81 and 90, General Laws, with funds appropriated annually, it is respectfully suggested that such appropriations for the work of this Department be made at an early date in the legislative session in order to take advantage of the construction season and to complete as much as possible of the contract work within the fiscal years for which funds are appropriated. This would also facilitate the early allotment of funds for work under Chapter 90.

Also, the early passage of appropriations for Waterways projects, including river and harbor work would make possible conduct of such work, particularly at locations which are at summer resorts, prior to the yachting season, so that communities may derive the benefits from such expenditures during the year in which they are made.

2. The Department believes that authorization should be given the Department to cooperate with the United States Geological Survey in making a survey of the geological resources of the Commonwealth. Such data would be of great value to the Department in locating deposits of sand, gravel and other road-building materials, as well as of frequent use for other State departments. It is recommended that an annual appropriation of \$10,000 be made in connection with the making of a geological map which is now in progress.

3. The Department is contemplating the extension and ultimate construction of many main thoroughfares, such as the Concord-Westminster road, Boston-Connecticut, Worcester Turnpike, Lowell Turnpike, Beverly-Gloucester, and others. It becomes increasingly evident as our work progresses that the indiscriminate access from abutting property to and from state highways is increasing the danger to travel on these important through routes. Many states are enacting laws which provide that the thoroughfare so laid out shall be in a special class so that the abutting property shall have no rights of access to or from the thoroughfare. Such a right has been conferred upon railroads in constructing their lines across country and also on many of our park departments in their taking of reservations and in the construction of roads therein.

It is recommended that careful consideration be given to this problem.

4. The repair of the Slades Ferry bridge, so called, over the Taunton River, between the city of Fall River and the town of Somerset, provided for by Chapter 488, Acts of 1935, and carried out to date, indicates that certain necessary other work must be done to make the bridge safe and adequate for public travel and use for highway purposes than is possible with the amount of funds (\$225,000) authorized by this act. It is estimated that an additional amount of \$20,000 is required for the purpose of providing automatic machinery for operating the traffic gates, for the installation of traffic lights and roadway lighting equipment and for the cleaning and painting of the old part of the structure.

5. The regulation and control of billboards, signs and other advertising devices is provided for at the present time by Rules and Regulations adopted by the Department on January 24, 1924, under the provisions of Section 29, Chapter 93, General Laws. However, under a recent Supreme Court decision in various suits brought for the purpose of controlling Accessory Use Signs, it appears that at the present time there is no jurisdiction over these Accessory Use Signs, which are clearly exempted under Section 30, Chapter 93 of the present advertising laws.

The Supreme Court in a decision declared that although the present law allowed evasions, it was the duty of the legislature and not the courts to determine what additions to the statute would best remedy the situation.

It is recommended that legislation be passed to provide under Section 21, Chapter 40, General Laws, for the regulation of the size, number, and location of billboards, signs, and other advertising devices which are located on the establishments wherein the business is conducted, as well as those signs which advertise the property itself, or any part thereof, as "For Sale" or "To Let".

Although different cities and towns would have different ideas concerning the extent to which they wish to exercise jurisdiction over signs, this legislation would enable a particular town, if it wished, to control the problem which is reaching large proportions in many cases.

APPROPRIATIONS

Chapter 234, Acts of 1937, making appropriations for the maintenance of departments, boards, commissions, institutions and certain activities of the Commonwealth, etc., is, in part, as follows:—

Item	<i>Requirements for Extinguishing the State Debt.</i>	
225.	For sinking fund requirements and for certain serial bonds maturing during the present year, the sum of five million four hundred two thousand seven hundred twenty-two dollars and eighty-three cents, payable from the following accounts and funds in the following amounts:—from the Highway Fund, five million sixty-eight thousand three hundred eighty-nine dollars and fifty cents; and the remainder from the General Fund	\$5,402,722 83
	<i>Interest on the Public Debt.</i>	
226.	For the payment of interest on the direct debt of the commonwealth, a sum not exceeding eight hundred sixty-eight thousand two hundred thirty-two dollars, of which sum five hundred sixty thousand six hundred sixty-six dollars and twenty-five cents shall be paid from the Highway Fund	868,232 00
	<i>Service of the Department of Banking and Insurance.</i>	
	Division of Insurance:	
314.	For other personal services of the division, including expenses of the board of appeal and certain other costs of supervising motor vehicle liability insurance, a sum not exceeding two hundred thirty-six thousand dollars, of which sum not more than thirty-five thousand dollars may be charged to the Highway Fund	236,000 00
	<i>Service of the Department of Corporations and Taxation.</i>	
	Corporations and Tax Divisions:	
320.	For the salaries of certain positions filled by the commissioner, with the approval of the governor and council, and for additional clerical and other assistance, a sum not exceeding two hundred forty-nine thousand dollars, of which sum not more	

than fifty thousand dollars may be charged to the Highway Fund to cover the estimated cost of collection of the gasoline tax, so called, and not more than fifty thousand dollars may be payable from fees collected under section twenty-seven of chapter one hundred and thirty-eight of the General Laws, as amended, to cover the estimated cost of collection of alcoholic beverages taxes, so called \$249,000 00

Service of the Department of Mental Diseases.

Division of Mental Hygiene:

For the maintenance of and for certain improvements at the following institutions under the control of the Department of Mental Diseases:

518. For the construction of roads within the property of the Monson state hospital, a sum not exceeding fifteen thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose, and the letting of the contract and the work of construction to be done under the supervision of the state department of public works 15,000 00

Service of the Department of Public Safety.

Division of State Police:

644. For the salaries of officers, including detectives, a sum not exceeding five hundred forty-nine thousand dollars, of which sum not more than two hundred thousand dollars may be charged to the Highway Fund 549,000 00
646. For other necessary expenses of the uniformed division, including traveling expenses of detectives, a sum not exceeding four hundred sixteen thousand dollars, of which sum not more than one hundred fifty thousand dollars may be charged to the Highway Fund 416,000 00

Service of the Department of Public Works.

The appropriations made in the following four items are to be paid three quarters from the Highway Fund and one quarter from the Port of Boston receipts:

663. For the salaries of the commissioner and the associate commissioners, a sum not exceeding nineteen thousand five hundred dollars 19,500 00
664. For personal services and clerks and assistants to the commissioner, a sum not exceeding eleven thousand one hundred dollars 11,100 00
665. For traveling expenses of the commissioners, a sum not exceeding two thousand dollars 2,000 00
666. For telephone service in the public works building, a sum not exceeding thirty thousand dollars 30,000 00

Functions of the department relating to highways (the following appropriations, except as otherwise provided, are made from the Highway Fund):

667. For the maintenance and operation of the public works building, a sum not exceeding one hundred thirty thousand dollars 130,000 00

Item

668.	For the salaries of guards for the public works building, a sum not exceeding thirty-five thousand dollars	\$35,000 00
669.	For personal services of the chief engineer, engineers and office assistants, including certain clerks and stenographers, a sum not exceeding ninety-seven thousand dollars	97,000 00
670.	For services other than personal, including printing pamphlet of laws and the annual report, and necessary office supplies and equipment, and for the expense of membership of the department in the American Association of State Highway Officials, a sum not exceeding seventeen thousand dollars	17,000 00
671.	For the suppression of gypsy and brown tail moths on state highways, a sum not exceeding twelve thousand five hundred dollars	12,500 00
672.	For the construction and repair of town and county ways, a sum not exceeding two million five hundred thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose	2,500,000 00
673.	For aiding towns in the repair and improvement of public ways, a sum not exceeding one million four hundred fifty thousand dollars	1,450,000 00
674.	For the maintenance and repair of state highways, including care of snow on highways, expenses of traffic signs and lights; for payment of damages caused by defects in state highways, with the approval of the attorney general; for care and repair of road-building machinery; and for the maintenance of a nursery for roadside planting, a sum not exceeding two million eight hundred thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose	2,800,000 00
675.	For the purpose of enabling the department of public works to secure federal aid for the construction and reconstruction of highways, including bridges, a sum not exceeding two million three hundred thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose :	2,300,000 00
676.	For administering the law relative to advertising signs near highways, a sum not exceeding twenty-one thousand dollars, to be paid from the General Fund	21,000 00
677.	For expenses of a topographical survey and map of the commonwealth, in addition to funds received from federal appropriations or private subscriptions, a sum not exceeding fifty thousand dollars	50,000 00

Registration of Motor Vehicles :

678.	For personal services, a sum not exceeding one million eighty thousand dollars, of which sum fifteen thousand dollars may be charged to the General Fund, and the remainder shall be paid from the Highway Fund	1,080,000 00
679.	For services other than personal, including traveling expenses, purchase of necessary supplies and materials, including cartage and storage of the same and for work incidental to the registration and licensing of owners and operators of motor vehicles,	

	a sum not exceeding four hundred eighty thousand dollars, to be paid from the Highway Fund .	\$480,000 00
680.	For printing and other expenses necessary in connection with publicity for certain safety work, a sum not exceeding one thousand dollars .	1,000 00
	Functions of the department relating to waterways and public lands:	
681.	For personal services of the chief engineer and assistants, a sum not exceeding fifty-eight thousand dollars	58,000 00
682.	For services other than personal, including printing pamphlet of laws and the annual report, and for necessary office and engineering supplies and equipment, a sum not exceeding sixteen hundred dollars	1,600 00
683.	For the care and maintenance of the province lands and of the lands acquired and structures erected by the Provincetown tercentenary commission, a sum not exceeding five thousand dollars	5,000 00
684.	For the maintenance of structures, and for repairing damages along the coast line or river banks of the commonwealth, and for the removal of wrecks and other obstructions from tide waters and great ponds, a sum not exceeding twenty-two thousand five hundred dollars	22,500 00
685.	For the improvement, development and protection of rivers and harbors, tide waters and foreshores within the commonwealth, as authorized by section eleven of chapter ninety-one of the General Laws, as appearing in the Tercentenary Edition thereof, and of great ponds, a sum not exceeding one hundred thousand dollars, and any unexpended balance of the appropriation remaining at the end of the current fiscal year may be expended in the succeeding fiscal year for the same purposes; provided, that all expenditures made for the protection of shores shall be upon condition that at least fifty per cent of the cost is covered by contributions from municipalities or other organizations and individuals, and that in the case of dredging channels for harbor improvements at least twenty-five per cent of the cost shall be so covered	100,000 00
686.	For re-establishing and permanently marking certain triangulation points and sections, as required by order of the land court in accordance with section thirty-three of chapter ninety-one of the General Laws, as appearing in the Tercentenary Edition thereof, a sum not exceeding one thousand dollars	1,000 00
687.	For expenses of surveying certain town boundaries, by the department of public works, a sum not exceeding five hundred dollars	500 00
688.	For the operation and maintenance of the New Bedford state pier, a sum not exceeding twelve thousand dollars	12,000 00
689.	For the compensation of dumping inspectors, a sum not exceeding fifteen hundred dollars	1,500 00
690.	For continuing the work in gauging the flow of water in the streams of the commonwealth, a sum not exceeding five thousand dollars	5,000 00

Item	
691. For the maintenance and repair of certain property in the town of Plymouth, a sum not exceeding thirty-five hundred dollars	\$3,500 00
692. For the operation and maintenance of the Cape Cod Canal pier, a sum not exceeding forty-five hundred dollars	4,500.00
694. For certain expenditures on account of the reconstruction of a pier at Plymouth, the sum of fourteen hundred sixty-six dollars and twenty-seven cents, the same to be in addition to any amount heretofore appropriated for the purpose Functions of the department relating to Port of Boston (the following items are to be paid from the Port of Boston receipts):	1,466 27
695. For the construction of railroads and piers and for the development of certain land, a sum not exceeding nine thousand dollars	9,000 00
696. For the supervision and operation of commonwealth pier five, including the salaries or other compensation of employees, and for the repair and replacement of equipment and other property, a sum not exceeding one hundred eleven thousand one hundred dollars	111,100 00
697. For the maintenance of pier one, at East Boston, a sum not exceeding four thousand dollars	4,000 00
698. For the maintenance and improvement of commonwealth property under the control of the department in connection with its functions relating to waterways and public lands, a sum not exceeding ninety thousand dollars	90,000 00
699. For dredging channels and filling flats, a sum not exceeding ninety thousand dollars, the same to be in addition to any unexpended balance of the appropriation made for the purpose in the previous year	90,000 00

Miscellaneous

The following items are to be paid from the Highway Fund, with the approval of the metropolitan district commission:

722. For maintenance of boulevards and parkways, a sum not exceeding six hundred ninety-eight thousand eight hundred and twenty dollars	698,820 00
723. For resurfacing of boulevards and parkways, a sum not exceeding two hundred seventy-five thousand dollars	275,000 00
724. For expense of supplies and services necessary for procuring Works Progress Administration funds, a sum not exceeding eight thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose	8,000 00
725. For the cost of installations necessary for additional street lighting, a sum not exceeding thirty-two thousand dollars	32,000 00
726. For maintenance of Wellington bridge, a sum not exceeding thirty-four hundred dollars	3,400 00

Unclassified Accounts and Claims

For certain other aid:

732. For the compensation of certain public employees for injuries sustained in the course of their em-	
---	--

ployment, for present and previous years, as provided by section sixty-nine of chapter one hundred and fifty-two of the General Laws, as amended, a sum not exceeding one hundred thousand dollars, of which sum not more than fifty-five thousand dollars may be charged to the highway Fund . \$100,000.00

DEFICIENCIES.

For deficiencies in certain appropriations of previous years, in certain items, as follows:

Service of the Department of Public Works.

For services other than personal, including printing pamphlet of laws and the annual report, and necessary office supplies and equipment, the sum of eighty-six dollars and thirty-five cents, to be paid from the Highway Fund .	86 35
For the maintenance and repair of state highways, including care of snow on highways, expenses of traffic signs and lights; for payment of damages caused by defects in state highways, with the approval of the attorney general; for care and repair of road-building machinery; and for the maintenance of a nursery for roadside planting, the sum of nine thousand thirty-four dollars and ninety cents, to be paid from the Highway Fund .	9,034 90

SECTION 3. No liabilities in excess of appropriations provided for under this act shall be incurred by any department or institution, except in case of emergency, and then only upon the prior written approval of the governor and council. The state comptroller is hereby directed to send a copy of this section to each departmental, divisional and institutional head immediately following the passage of this act, together with a copy of suitable regulations relative to applications for transfers from the appropriation for extraordinary expenses as provided by section eight of chapter six of the General Laws.

SECTION 5. No payment shall be made or obligation incurred under authority of any special appropriation made by this act for construction of public buildings or other improvements at state institutions until plans and specifications have been approved by the governor, unless otherwise provided by such rules and regulations as the governor may make.

SECTION 6. No expenses incurred for mid-day meals by state employees, other than those who receive as part of their compensation a non-cash allowance in the form of full or complete boarding and housing, and those employees who are stationed beyond commuting distance from their homes for a period of more than twenty-four hours, shall be allowed by the commonwealth.

SUPPLEMENTARY APPROPRIATIONS

Chapter 434, Acts of 1937, in addition to the general appropriation act making appropriations to supplement certain items contained therein, and for certain new activities and projects, is, in part, as follows:—

SECTION 1. To provide for supplementing certain items in the general appropriation act, and for certain new activities and projects, the sums set forth in section two, for the particular purposes and subject to the conditions stated therein, are hereby appropriated from the general fund or ordinary revenue of the commonwealth, unless some other source of revenue is expressed, subject to the provisions of law regulating the disbursement of public funds and the approval thereof.

SECTION 2.

Item

Service of the Department of Public Works.

Functions of the department relating to highways (the following appropriations, except as otherwise provided, are made from the Highway Fund):

667.	For the maintenance and operation of the public works building, a sum not exceeding thirty-five hundred dollars, the same to be in addition to any amount heretofore appropriated for the purpose	\$3,500 00
672.	For the construction and repair of town and county ways, a sum not exceeding two hundred thousand dollars, the same to be in addition to any amount heretofore appropriated therefor	200,000 00
674.	For the maintenance and repair of state highways, including care of snow on highways, expenses of traffic signs and lights; for payment of damages caused by defects in state highways, with the approval of the attorney general; for care and repair of road-building machinery; and for the maintenance of a nursery for roadside planting, a sum not exceeding three hundred and fifty thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose	350,000 00
675.	For the purpose of enabling the department of public works to secure federal aid for the construction and reconstruction of highways, including bridges, a sum not exceeding three hundred and fifty thousand dollars, the same to be in addition to any amount heretofore appropriated therefor	350,000 00
676.	For administering the law relative to advertising signs near highways, a sum not exceeding four thousand dollars, to be paid from the General Fund and to be in addition to any amount heretofore appropriated for the purpose	4,000 00
Registration of Motor Vehicles:		
679.	For services other than personal, including traveling expenses, purchase of necessary supplies and materials, including cartage and storage of the same, and for work incidental to the registration and licensing of owners and operators of motor vehicles, a sum not exceeding thirteen thousand dollars, to be paid from the Highway Fund and to be in addition to any amount heretofore appropriated for the purpose	13,000 00
Functions of the department relating to waterways and public lands:		
693a.	For dredging at or near the public town wharf at Provincetown, a sum not exceeding four thousand dollars	4,000 00
Functions of the department relating to Port of Boston, the following items are to be paid from the Port of Boston receipts):		
696.	For the supervision and operation of commonwealth pier five, including the salaries or other compensation of employees, and for the repair and replacement of equipment and other property, a sum not exceeding three thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose	3,000 00

- | | | |
|------|---|------------|
| 697. | For the maintenance of pier one, at East Boston, a sum not exceeding two thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose. | \$2,000 00 |
| 700. | For the cost of inspection of structures in tidewater within Boston harbor, a sum not to exceed three thousand dollars, the same to be in addition to any amount heretofore appropriated therefor | 3,000 00 |

Miscellaneous.

The following items are to be paid from the Highway Fund, with the approval of the metropolitan district commission:

- | | | |
|-------|---|-----------|
| 722. | For maintenance of boulevards and parkways, a sum not exceeding fourteen thousand three hundred and ninety-five dollars, the same to be in addition to any amount heretofore appropriated for the purpose | 14,395 00 |
| 724. | For expenses of supplies and services necessary for procuring Works Progress Administration funds, a sum not exceeding sixteen thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose | 16,000 00 |
| 726a. | For the purchase and erection of tablets for certain bridges, a sum not exceeding fifteen hundred dollars | 1,500 00 |

Other Appropriations

- | | | |
|------|---|----------|
| 36c. | For an investigation relative to the improvement of conditions at Musquashiat pond in the town of Scituate, as authorized by chapter thirteen of the resolves of the present year, a sum not exceeding three thousand dollars | 3,000 00 |
|------|---|----------|

DEFICIENCIES.

For deficiencies in certain appropriations of previous years, in certain items, as follows:

Service of the Department of Public Works.

- | | |
|---|-------|
| For the maintenance and repair of state highways, including care of snow on highways, expenses of traffic signs and lights; for payment of damages caused by defects in state highways with the approval of the attorney general; for care and repair of road-building machinery; and for the maintenance of a nursery for roadside planting, the sum of forty-five dollars and sixteen cents, to be paid from the Highway Fund | 45 16 |
| For the supervision and operation of commonwealth pier five, including the salaries or other compensation of employees, and for the repair and replacement of equipment and other property, the sum of eighty-eight dollars and fifty-nine cents | 88 59 |

SECTION 3. The following amendments and transfers are hereby authorized in appropriations previously made:

Department of Public Works.

The appropriation made by Item 677 of chapter two hundred and thirty-four of the acts of the present year, for expenses of a topographical survey and map of the commonwealth, is hereby made in addition to the unexpended balance of any appropriation heretofore made for the purpose.

The unexpended balance of the appropriation made by Item 666e of chapter four hundred and ninety-seven of the acts of nineteen hundred and thirty-five, for expenditures for flood control of the Housatonic river, is hereby reappropriated.

The unexpended balance of the appropriation made by Item 638 of chapter two hundred and forty-five of the acts of nineteen hundred and thirty-one, as most recently reappropriated by chapter two hundred and forty-nine of the acts of nineteen hundred and thirty-five, for certain work in the Taunton river authorized by chapter four hundred and five of the acts of nineteen hundred and thirty, is hereby again reappropriated.

Chapter four hundred and twenty-nine of the acts of nineteen hundred and thirty-six, providing for repair or reconstruction of certain bridges damaged by recent floods, is hereby amended by adding at the end the following new section:—*Section 8.* The comptroller is hereby authorized to certify for payment liabilities incurred by the department in anticipation of the receipt of the assessments to be made in nineteen hundred and thirty-eight on certain cities, towns and counties, as authorized by this act.

FURTHER SUPPLEMENTARY APPROPRIATIONS

Chapter 445, Acts of 1937, in addition to the general appropriation act making appropriations to supplement certain items contained therein, and for certain new activities and projects, is in part, as follows:—

SECTION 1. To provide further for supplementing certain items in the general appropriation act, and for certain new activities and projects, the sums set forth in section two, for the particular purposes and subject to the conditions stated therein, are hereby appropriated from the general fund or ordinary revenue of the commonwealth, unless some other source of revenue is expressed, subject to the provisions of law regulating the disbursement of public funds and the approval thereof.

SECTION 2.

Item

36t. For an investigation relative to certain harbor improvements in the commonwealth, as authorized by chapter sixty-nine of the resolves of the present year, a sum not exceeding twenty-five hundred dollars

\$2,500 00

677a. For the meeting of payrolls and other compensation and expenses incurred by the department of public works as the agency of the commonwealth for the acquisition of lands, easements and rights of way and other duties, as provided in chapters three hundred and ninety-seven and four hundred and twenty-three of the acts of the present year, as amended, for flood control purposes in the Connecticut river valley and the Merrimack river valley, a sum not exceeding fifty thousand dollars, to be charged against receipts from the treasurers of the interstate compact commissions under the provisions of said chapters.

190a. For the compensation and incidental expenses of the members appointed to represent the commonwealth on the interstate compact commission relative to flood control of the Merrimack river, as authorized by chapter four hundred and twenty-three of the acts of the present year, as amended, a sum not exceeding four thousand dollars

4,000 00

190b. For the compensation and incidental expenses of the members appointed to represent the common-

	wealth on the interstate compact commission relative to flood control of the Connecticut river, as authorized by chapter three hundred and ninety-seven of the acts of the present year, as amended, a sum not exceeding four thousand dollars	\$4,000 00
726b.	For the reconstruction of a bridge and its approaches over the Mystic river in the city of Medford and the town of Arlington by the metropolitan district commission, as authorized by chapter four hundred and thirty-two of the acts of the present year, a sum not exceeding fifty-two thousand five hundred dollars, to be paid from the Highway Fund .	52,500 00

HIGHWAY FUND DIVERSION

Chapter 443, Acts of 1937, provided for the transfer of the proceeds of the gasoline tax from the Highway Fund to the General Fund, as follows:

Whereas, The deferred operation of this act would tend to defeat its purpose, therefore it is hereby declared to be an emergency law, necessary for the immediate preservation of the public convenience.

The state treasurer is hereby authorized and directed to transfer the sum of six million six hundred thousand dollars from the Highway Fund to the General Fund.

FINANCIAL STATEMENTS

Summary of Income, Year Ending November 30, 1937

HIGHWAY FUND

*(Section 34, Chapter 90, General Laws, as amended)**(See Chapter 288, Acts of 1925)*

Fees (for registration of motor vehicles, licenses to operate etc.) and fines (penalties, Sundry Courts) net receipts	\$6,842,163.87
Gasoline Tax, net	19,820,398.39
Contributions for highways and assessments (G. L. Ch. 81)	37,629.39
Appropriation balances of previous years reverting	97,557.89
Contributions and refunds	26,233.66
Sale of old materials and buildings	7,498.65
Reimbursement for repairs to guard rail and other property	7,720.69
Rent of property (Nursery)	194.00
Rental of space, Public Works Building	52,242.88
Slot Machine Receipts	231.15
	<hr/>
	\$26,891,870.57

PORT OF BOSTON FUND

(Chapter 91, General Laws)

Rents (leases and permits)	\$153,986.86
Reimbursement for services (inspection of dumping dredged material in Boston Harbor)	42.08
Use of Comlth Pier No. 5 (wharfage, dockage, rentals, etc.)	143,625.36
Use of Comlth Pier No. 1 (rentals, etc.)	4,381.50
Revenue from permits for dumping dredged material at receiving basins	105.42
License charges	17,124.58
Telephone Pay Station receipts	339.83
Sales of land	38,465.00
Refunds	8,719.48
Appropriation balances of previous years reverting	4,482.28
Hayward Creek (Rental \$1,875.00, sale of land \$78,550.00)	80,425.00
	<hr/>
	\$451,697.39

DEPARTMENT INCOME

(Ordinary Revenue)

Sales (specifications and plans for contracts \$3,994)	\$4,094.50
License charges	2,254.38
Certifying copying charges	80.00
Sales of Atlas sheets and miscellaneous plans	1,234.02
Use of Province Lands (S. 25, C. 91, G. L.)	353.00
Permits for advertising signs	11,756.60
Use of New Bedford State Pier	29,509.72
Use of Cape Cod Canal State Pier	4,795.55
Use of Plymouth State Pier	33.00
	<hr/>
	\$54,110.77

IMPROVEMENT OF RIVERS AND HARBORS TRUST

(Sections 11, 29, Chapter 91, General Laws)

Contributions from towns, individuals or others	\$59,790.00
---	-------------

HIGHWAY TRUST

(Section 30, Chapter 81, G. L.)

Federal Aid (reimbursement from United States Government)	6,529,183.64
Contribution from City of Revere (Chapter 375-1934 and 487-1935)	92,990.06

FUNDS CONTRIBUTED FOR SPECIAL P. W. A. BANK ACCOUNT PROJECTS

<i>PWA 1361D—Central Bridge Lowell</i>	
Federal aid (reimbursement from U. S. Government)	\$66,500.00
City of Lowell	60,993.00
County of Middlesex	60,993.00
	<hr/>
	188,486.00
<i>PWA 1286D—Anchorage Basin, Hull</i>	
Federal aid (reimbursement from U. S. Government)	36,610.00
Town of Hull	5,000.00
	<hr/>
	41,610.00
<i>PWA 1301D—Comm. Pier No. 5</i>	
Federal aid (reimbursement from U. S. Government)	166,645.49
<i>PWA 1308D—Vineyard Haven Harbor</i>	
Federal aid (reimbursement from U. S. Government)	7,455.51
	<hr/>
<i>Total</i>	\$34,483,839.43

EXPENDITURES

The expenditures by the Department under the provisions of General Laws and other acts and the appropriation acts, chapter 234, 434 and 445, Acts of 1937, during the fiscal year ending November 30, 1937 were as follows:

ADMINISTRATIVE

Commissioners, Associate Commissioners, Personal services of clerks, stenographers, and Commissioners' travel	\$29,801.30
Public Works Building, operation and maintenance	133,333.70
Public Works Building, telephone services	26,261.01
Public Works Building, Salaries of Guards	32,515.98
	<hr/>
<i>Total</i>	\$221,911.99

RELATING TO HIGHWAYS

<i>Personal Services—Chief Engineer, Clerks and Stenographers</i>	\$95,911.24
<i>State Highways (Chapter 81, G. L.)</i>	
General contract work	\$1,666,703.87
Engineering, salaries and miscellaneous	648,059.54
Highway testing laboratory	10,381.86
Investigation of Worcester Pike	360.64
Inspection of bituminous concrete pavement (Technical services)	3,175.74
Consultant's services	1,544.92
Planning survey	4,538.16

Fore River Bridge		
Substructure	\$116,670.42	
Superstructure	100,000.00	
	<hr/>	
	216,670.42	
	<hr/>	
		2,551,435.15
<i>Maintenance and Repair of State Highways</i> (Chapter 81, G. L.)		
<i>Reconstruction of State Highways</i>		
General contract work	\$23,798.51	
Engineering, salaries and miscellaneous	46,275.98	
	<hr/>	
		70,074.49
<i>Ordinary Maintenance</i>		
General Maintenance	1,223,422.35	
Engineering, salaries and miscellaneous	382,381.49	
Highway testing laboratory	23,679.02	
Care and repair of road building machinery	397,269.20	
Removal of snow on highways	699,022.92	
Road planting and development	72,950.92	
Traffic engineering, signs and traffic count	199,243.61	
Paint manufacture	23,551.52	
Newburyport Bridge, Salisbury-Newbury- port, over Merrimack River, mainte- nance and operation	7,399.23	
Brightman St. Bridge, Fall River-Somer- set, maintenance and operation	15,550.42	
New Bedford-Fairhaven Bridge, Acushnet River, maintenance and operation	20,182.01	
Quincy-Weymouth Bridge, maintenance and operation	18,291.86	
Detour and route maps	1,827.87	
Geodetic survey	3,124.45	
Tractor repairs	7,891.03	
Inspection of bituminous concrete pave- ment (Technical service)	1,690.38	
	<hr/>	
		3,097,478.28
<i>Construction of Town and County Ways</i> (Sec. 34 Chapter 90, G. L.)		
State's expenditures for work contracted for in cities and towns	\$2,016,517.67	
Engineering and expense (supervision)	571,917.77	
Inspection of bituminous concrete pave- ment (Technical services)	14,924.62	
Slade's Ferry Bridge	20,863.25	
Hull	84,212.28	
	<hr/>	
		\$2,708,435.59
<i>Aiding Towns in the Repair and Improvement of Public Ways</i> (Sec. 26, Chap. 81, G.L.)		
State's expenditures for work contracted for in cities and towns	\$1,289,193.07	
Engineering and expense (supervision)	98,256.60	
	<hr/>	
		1,387,449.67
<i>Emergency Public Works Construction</i>		84,297.62
<i>Special Acts</i>		
<i>Incidentals</i> (printing, postage, supplies, etc.)		16,832.22
<i>Advertising signs, regulation of personal services and expenses</i>		27,252.06
<i>Highways in Metropolitan District</i> (Chap. 420, Acts of 1930 as amended by Chap. 450, Acts of 1931)		
Section 1, Canton, Dedham, Welesley, etc.	20.00	

Section 2, Canterbury St., Boston	10.00	
Section 3, Land Taking—Neponset River, Milton	7,769.48	
Section 4, West Roxbury-Brookline Parkway	36,850.00	
		44,649.48
<i>Abolition of Grade Crossings</i> (Chapter 417, Acts of 1930)		4,707.50
<i>Alewife Brook Parkway Extension</i> (Chapter 302, Acts of 1932)		8,401.89
<i>Traffic Circle Neponset River</i> (Chapter 341, Acts of 1934)		40.00
<i>Reconstruction of Ocean Ave., Revere</i> (Chapter 375, Acts of 1934)		51,785.86
<i>Central Bridge, Lowell</i> (Chap. 433, Acts of 1937)		131,488.73
<i>Suppression of Gypsy and Brown-tail Moths on State Highways in cities and towns</i>		12,238.90
<i>Topographical survey and maps</i>		35,428.60
<i>Chap. 464—Acts of 1935—Bond Issue</i>		
Class 2, Construction of sidewalks	\$83,589.34	
Class 3, Hayden-Cartwright Act	2,383,908.46	
Class 4, Grade Crossing, etc	4,528,542.34	
		\$6,996,040.14
<i>Chap. 186, Acts of 1936—State Highway Flood Damage</i>		87,399.07
<i>Chap. 429, Acts of 1936—Construction of Certain Bridges</i>		1,220,379.45
<i>Total Expenditures for Highways</i>		\$18,631,725.94

SUMMARY OF EXPENDITURES RELATING TO WATERWAYS
FISCAL YEAR ENDING NOVEMBER 30, 1937

General Expenses	\$54,334.80
<i>Boston Harbor:</i>	
Development of Rivers and Harbors Chap. 464, Acts of 1935, Class 5)	282,662.42
Dredging and Filling	87,859.63
Maintenance and Operation Commonwealth Pier 5, South Boston	114,885.73
Maintenance and Operation Commonwealth Pier 1, East Boston	7,025.23
Maintenance of Property	79,797.62
Streets, Piers and Railroads	10,450.84
Structures in tide water, Boston Harbor, inspection of	10,083.78
<i>Outside Boston Harbor:</i>	
Cape Cod Canal Pier, operation and maintenance	4,470.91
Compensation of Dumping Inspectors	152.85
Development of Rivers and Harbors (Chap. 464, Acts of 1935, Class 5)	2,109.41
Gloucester Fish Pier, construction	349,056.27
Harbor improvements, study relative to	2,497.71
Improvement of Rivers and Harbors	207,535.80
Nantucket Sound (Chap. 374, Acts of 1935)	24,635.91
New Bedford Pier, operation and maintenance	8,064.87
Plymouth Property, expenses of	3,117.53
Plymouth Pier, reconstruction (Chap. 429, Acts of 1935)	6,716.25
Province lands, expenses of	4,917.37
Repairing Damage to shores	6,841.12
Roughans Point, Revere (Chap. 358, Acts of 1936)	140,498.60
Salisbury Beach, improvement of (Chap. 399, Acts of 1934)	104.00
Stream Gauging	5,000.00

P.D. 54	21
Structures in Tide Water, outside Boston Harbor	3,772.03
Topographical Survey	810.07
Town Boundaries, surveying	290.71
W.P.A. Grants, expenses in connection with (Chap. 432, Acts of 1936)	23,970.45

<i>Total</i>	<u>\$1,441,661.91</u>
------------------------	-----------------------

EXPENDITURES RELATING TO THE REGISTRY OF MOTOR VEHICLES

Cost of Running the Registry of Motor Vehicles	\$1,577,788.09
Safety Work, Publicity	407.90

<i>Total</i>	<u>\$1,578,195.99</u>
------------------------	-----------------------

SUMMARY OF EXPENDITURES BY DEPARTMENT FOR YEAR ENDING NOVEMBER 30, 1937

Administrative	\$221,911.99
Relating to Highways	18,631,725.94
Registry of Motor Vehicles	1,578,195.99
Relating to Waterways	1,441,661.91
<i>Total</i>	<u>\$21,873,495.83</u>

CO-OPERATIVE WORK—SUPERVISION OF EXPENDITURES

The Department has supervised the expenditures during the year by cities, towns and counties, under Chapter 81, General Laws, as amended, of approximately \$3,009,386.54 for co-operative work, in repairing, maintaining and improving certain public ways, and for other road work for which the towns and cities made contributions. All such work was carried out in conformity with contracts, specifications and plans approved by the Department.

Financial statement verified.

Approved

GEO. E. MURPHY, *Comptroller*.

RELATING TO HIGHWAYS

GENERAL STATEMENT

State Highways.—During the year ending November 30, 1937, the Department laid out new State Highways amounting to 10.75 miles in 7 cities and towns. Under Chapter 81, General Laws, as amended by Chapter 427, Acts of 1931, 3.45 miles of State Highways were discontinued or abandoned. The total length of State Highways at the end of the year was 1894.45 miles.

Highways Constructed in 1937.—Construction has been completed on 13.814 miles of State Highway, 166.245 miles of highway under the Provisions of Section 34, Chapter 90, General Laws as amended, and 5.947 miles of highway under the Provisions of Special Acts, making a total of 186.006 miles completed during the year.

Of the above highways completed this year, the classification according to type of pavement is as follows:

0.099 Mile of Dual (Reinf. Conc. and Bit. Macadam)
33.138 Miles of Bituminous Macadam
55.885 Miles of Bituminous Concrete
44.580 Miles of Bituminous Concrete (Mixed in Place)
17.122 Miles of Gravel with Bituminous Treatment
14.766 Miles of Gravel
20.416 Miles of Penolithic

Resurfacing, Reconstruction and Widening of Highways.—During the year 4.401 miles of highway were widened but not resurfaced, and

16.984 miles of State Highway were resurfaced or reconstructed and widened. In addition to this work on which the surfacing has been completed, there are several miles of road in various stages of completion which are scheduled to be finished next year.

The Resurfacing or Reconstruction of State Highways in 1937 was divided into types as follows:

- 1.301 Miles of Reinforced Cement Concrete
- 0.151 Miles of Bituminous Macadam
- 12.723 Miles of Bituminous Concrete
- 2.809 Miles of Penolithic

Surveys, Plans and Estimates.—During the year ending November 30, 1937, preliminary surveys, plans and estimates were made as follows:

For State Highway Construction.—Reconnaissance surveys and plans in 2 cities and 7 towns, 25.9 miles; reconnaissance estimates in 21 towns, 79.82 miles; preliminary surveys in 6 cities and 9 towns, 12.146 miles; plans in 6 cities and 9 towns, 15.883 miles; preliminary estimates in 5 cities and 7 towns, 13.560 miles; lines and grades in 5 cities and 7 towns, 13.560 miles; and final surveys in 2 cities and 5 towns, 5.682 miles.

For State Highway Reconstruction.—Reconnaissance surveys and plans in 1 town, 0.5 mile; reconnaissance estimates in 1 city and 2 towns, 4.8 miles; preliminary surveys in 4 cities and 14 towns, 25.575 miles; plans in 4 cities and 13 towns, 24.782 miles; preliminary estimates in 2 cities and 2 towns, 3.789 miles; lines and grades in 2 cities and 2 towns, 3.789 miles; and final surveys in 3 cities and 4 towns, 10.591 miles.

For State Highway Maintenance.—Preliminary surveys in 2 cities and 2 towns, 2.396 miles; plans in 2 cities and 3 towns, 1.591 miles; preliminary estimate in 1 city, 0.199 miles; lines and grades in 1 city; 0.199 miles; and final surveys in 3 towns, 0.252 miles.

Under Section 34, Chapter 90, General Laws, as Amended.—Reconnaissance surveys and plans in 1 city and 11 towns, 12.7 miles; reconnaissance estimates in 1 city, 0.208 miles; preliminary surveys in 27 cities and 137 towns, 153.452 miles; plans in 26 cities and 168 towns, 157.392 miles; preliminary estimates in 27 cities and 251 towns, 299.061 miles; lines and grades in 28 cities and 252 towns, 318.689 miles; and final surveys in 9 cities and 45 towns, 36.263 miles.

Under the Provisions of Various Acts and Resolves.—Surveys, plans, estimates, lines and grades, and final surveys were made as follows:

Chapter 24, Resolves of 1937: 0.568 mile of estimate in one city.

Chapter 60, Resolves of 1937: 48 miles of estimates in 4 cities and 11 towns.

Chapter 429, Acts of 1936: 4.530 miles of preliminary surveys in 2 cities and 18 towns; 4.294 miles of plans in 2 cities and 13 towns; 4.986 miles of preliminary estimates in 2 cities and 33 towns; 4.986 miles of lines and grades in 2 cities and 33 towns; and 2.074 miles of final surveys in 1 city and 11 towns.

Chapter 433, Acts of 1936: 0.265 mile of preliminary surveys in 1 city; 0.227 mile of plans in 1 city; 0.104 mile of preliminary estimate in 1 city; and 0.104 mile of lines and grades in 1 city.

Chapter 464, Acts of 1935: 0.227 mile of preliminary surveys in 1 town; 0.227 mile of plans in 1 town; 0.194 mile of preliminary estimates in 1 city and 1 town; 0.194 mile of lines and grades in 1 city and 1 town; and 11.943 miles of final surveys in 3 cities and 9 towns.

Chapter 488, Acts of 1935: 0.189 mile of preliminary survey and plan in 1 town.

During the year the Massachusetts Geodetic Survey, which is a Works Progress Administration Project sponsored by the Massachusetts Department of Public Works, has made level, traverse, and triangulation surveys, and has established bench marks, traverse and triangulation stations as follows:

345 miles of second order leveling, including 334 bench marks, in 56 cities and towns.

427 miles of first order leveling, including 660 bench marks, in 74 cities and towns.

2672.3 miles of triangulation, including 100 permanent triangulation stations, in 85 cities and towns.

392 miles of traverses, including 338 permanent traverse stations, in 106 cities and towns.

103 new town and city maps were drawn and 110 town and city maps were redrawn.

Permits.—There were 808 permits issued during the year for opening or occupying State Highways for various purposes.

Engineering Advice to Other Departments.—Advice to Department of Mental Diseases; preliminary surveys in 1 town, 1.136 miles; plans in 1 town, 0.157 mile; preliminary estimates in 1 town, 0.150 mile; lines and grades in 1 town, 0.150 mile; and final surveys in 1 town, 0.568 mile.

Engineering Advice to Municipal Authorities.—The Department furnished engineering advice without charge to 13 cities and towns in accordance with the provisions of Section 1, Chapter 81, General Laws.

Approval of Specifications.—The Department approved during the year under the provisions of Section 7, Chapter 44, General Laws, as amended, specifications for the construction of roads in 10 cities and towns.

Planting of Trees on State Highways.—During the past year 803 trees were planted along roadsides making a total of 76,956 trees thus set out in the past thirty-three years. In addition there were planted throughout the State 2444 shrubs.

PETITIONS, MEETINGS AND HEARINGS

In addition to the regular weekly meetings of the Department throughout the year, numerous hearings and conferences have been held, including the annual hearings in the several counties in the Commonwealth for the open discussion of questions relating to the public ways, as required by section 1, chapter 81, General Laws; appeals from the action taken by the Registrar of Motor Vehicles in the suspension or revocation of certain licenses to operate motor vehicles in 220 cases; on the matter of outdoor advertising in several towns and cities; on the matter of special regulations for motor vehicles in Melrose and Wellesley; on the matter of laying out a State highway in the towns of Petersham and New Salem under the provisions of Chapter 218 of the Acts of 1937; and on the matter of the elimination of grade crossings in Gardner, Worcester, North Adams and Milford.

Petitions were received and contracts signed during the year as follows:

	Petitions	Contracts
State Highways	4	3
Work under section 34, chapter 90, General Laws	—	552
Work under section 26, chapter 81, General Laws	177	177
Work under Special Acts	—	59
Elimination of Grade Crossings	—	6
Miscellaneous	—	11
Total	181	808

STATE HIGHWAYS

Petitions for State Highways

General Laws, chapter 81, section 4 (Tercentenary Edition), provides that—

“If county commissioners, aldermen or selectmen adjudge that public necessity and convenience require that the Commonwealth lay out and take charge of a new or existing way as a highway in whole or in part, in their county, city or town, they may apply, by a written petition, to

the department, requesting that said way be laid out and taken charge of by the commonwealth."

Petitions under the aforesaid section have been received during the year as follows:—

SELECTMEN OF AGAWAM:—Road extending from the bridge at the Agawam-West Springfield line westerly to the dividing line between the towns of Agawam and Southwick (known as Auto Route 57). Received January 19, 1937.

SELECTMEN OF LYNNFIELD:—Road locally known as Locust Street, extending from Salem Street to the dividing line between the town of Lynnfield and the city of Peabody. Received May 13, 1937.

SELECTMEN OF CLINTON:—Road locally known as High Street, Water Street, Main Street and the West Boylston Road, extending from the dividing line between the towns of Lancaster and Clinton to the dividing line between the towns of Clinton and Sterling. Received July 12, 1937.

SELECTMEN OF ANDOVER:—Road locally known as Lowell Street, extending from Shawsheen Village to the dividing line between the towns of Andover and Tewksbury. Received September 10, 1937.

CONSTRUCTION OF STATE HIGHWAYS

(Chapter 81, General Laws, as amended)

The following contracts were entered into during the year for the construction of State highways, and work incidental thereto, in various municipalities:—

Dartmouth and Westport

December 15, 1936, contract made with J. A. Singarella Construction Corp., of Boston, for constructing about 1,750 feet of State highway on State Road in Dartmouth, and about 450 feet of State highway on the same road in Westport, and constructing a dam and appurtenant structures in Dartmouth at Westport Factory, the surface of the highway consisting of bituminous concrete. The proposal amounted to \$113,399.75. Work completed September 18, 1937. Expenditure during 1937, \$111,586.61.

Fitchburg-Leominster

July 27, 1937, contract made with A. G. Tomasello & Son, Inc., of Boston, for constructing about 8,665 feet of State highway on new location in Leominster, about 2,800 feet on new location and 2,080 feet on 5th Massachusetts Turnpike in Fitchburg. The proposal amounted to \$345,111.58. Work about two-thirds completed. Expenditure during 1937, \$237,439.05.

Sheffield

July 21, 1937, contract made with B. A. Gardetto, Inc., of Boston, for constructing about 418 feet of State highway on Ashley Falls Road in Sheffield, the surface consisting of bituminous macadam. The proposal amounted to \$6,611.65. Work about one-fourth completed. Expenditure during 1937, \$1,748.53.

EXPENDITURES FOR CONSTRUCTION OF STATE HIGHWAYS

The expenditures for the construction of State highways in various Counties during the year were:—

Barnstable	\$372,680.63	Middlesex	\$447,950.73
Berkshire	7,151.90	Norfolk	84,065.71
Essex	192,312.98	Plymouth	1,061.86
Franklin	10,325.73	Suffolk	782,912.20
Hampden	4,771.98	Worcester	381,917.26
Hampshire,	49,613.75		
Total			\$2,334,764.73

Details of the foregoing expenditures follow:—

Barnstable County.—Bourne, \$33,176.72; Eastham, \$279,432.79; Falmouth, \$64.44; Orleans, \$60,006.68.

Berkshire County.—Cheshire, \$231.22; North Adams, \$76.22; Otis, \$77.09; Pittsfield, \$6,767.37.

Essex County.—Essex, \$562.11; Gloucester, \$562.09; Lynn, \$268.38; Peabody, \$14,008.28; Saugus, \$176,802.20; Swampscott, \$109.92.

Franklin County.—Charlemont, \$284.42; Greenfield, \$1,001.59; Montague, \$9,039.72.

Hampden County.—Brimfield, \$28.02; Holyoke, \$4,743.96.

Hampshire County.—Easthampton, \$28.02; Hadley, \$24,168.59; Huntington, \$328.41; Northampton, \$24,168.60; So. Hadley, \$920.13.

Middlesex County.—Billerica, \$1,711.00; Chelmsford, \$1,711.00; Concord, \$1,032.01; Dracut, \$106.46; Framingham, \$289.99; Malden, \$432,513.30; Newton, \$3,221.90; Tewksbury, \$3,378.80; Wayland, \$3,636.06; Woburn, \$350.21.

Norfolk County.—Braintree, \$41.77; Brookline, \$6,286.30; Cohasset, \$2,720.75; Dedham, \$39,903.50; Milton, \$969.64; Quincy, \$14,022.37; Wellesley, \$6,099.01; Weymouth, \$14,022.37.

Plymouth County.—Duxbury, \$7.00; Scituate, \$385.22; Wareham, \$669.64.

Suffolk County.—Boston, \$146,349.34; Revere, \$636,562.86.

Worcester County.—Athol, \$1,365.81; Fitchburg, \$177,430.59; Leominster, \$172,649.87; Millbury, \$28,994.70; Sutton, \$5.42; Webster, \$1,120.66; West Boylston, \$350.21.

HIGHWAY IMPROVEMENTS AUTHORIZED BY SPECIAL ACTS

Flood Bridges

Chapter 429, Acts of 1936

The reconstruction of Massachusetts bridges which were damaged during the flood of 1935 was financed partly by federal funds and partly by funds contributed by the state, counties, cities and towns.

The federal funds were authorized under the Emergency Relief Appropriation Act of 1936, approved June 22, 1936. These funds were apportioned to the states by the Department of Agriculture acting through the Bureau of Public Roads. In the majority of cases federal funds provided for 75% of the cost of a project.

The remainder of the cost was borne by the state, counties, cities and towns. The non-federal funds for those projects which were on state highways were financed under the provisions of Chapter 186 of the Acts of 1936. The greater part of the projects however were not on state highways and these projects were financed under the provisions of Chapter 429 of the Acts of 1936.

In accordance with the provisions of Chapter 429 of the Acts of 1936, providing for the repair or reconstruction of certain bridges damaged by recent floods, the following contracts were entered into:—

Pepperell

Dec. 30, 1936, contract made with Coleman Bros. Corporation, of Boston, for constructing a steel stringer bridge of four spans with a concrete deck at Station 10 on Main Street, over the Nashua River, and the approaches thereto, the surface on the approaches consisting of bituminous macadam, and the surface over the bridge consisting of bituminous concrete. The proposal amounted to \$69,544.90. Work completed Nov. 24, 1937. Expenditure during 1937, \$72,636.82.

Leominster

Feb. 2, 1937, contract made with G. Bonazzoli & Sons, of Bolton, for constructing a steel stringer bridge of three spans with a concrete deck at Mechanic Street, over the Nashua River, and the approaches thereto, the surface on the approaches consisting of gravel and tar mixed in place,

and the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$49,226.90. Work completed Nov. 24, 1937. Expenditure during 1937, \$40,496.58.

Erving-Montague

Feb. 9, 1937, contract made with Charles I. Hosmer, Inc., of Greenfield, for constructing a steel truss bridge with concrete deck at Station 4+85.50, over Millers River, and the approaches thereto, the surface on the approaches consistig of bituminnus macadam, and the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$50,142.00. Work completed Sept. 1, 1937. Expenditure during 1937, \$32,760.49.

Lancaster

March 9, 1937, contract made with Richard White Sons, Inc., of West Newton, for constructing a steel stringer bridge of two spans with concrete deck on Center Bridge Road over Nashua River, and the approaches thereto, the surface on the approaches consisting of bituminous macadam, and the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$43,960.30. Work completed Aug. 13, 1937. Expenditure during 1937, \$46,457.14.

Ludlow-Wilbraham

March 11, 1937, contract made with Mario Pandolf Company, Inc., of Needham, for constructing a two span continuous steel stringer bridge with a concrete deck between Ludlow and Wilbraham over the Chicopee River, and the approaches thereto, the surface on the approaches consisting of gravel and tar mixed in place. The proposal amounted to \$64,950.15. Work about three-fourths completed. Expenditure during 1937, \$45,953.55.

Barre

March 30, 1937, contract made with E. Whitehead, Inc., of Worcester, for constructing a steel truss bridge with a concrete floor at South Barre over the Ware River, and the approaches thereto, the surface on the approaches consisting of broken stone and tar mixed in place, and the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$27,311.35. Work completed Nov. 26, 1937. Expenditure during 1937, \$23,649.80.

Dudley-Webster

April 20, 1937, contract made with G. Bonazzoli & Sons, of Hudson, for constructing a steel stringer bridge with concrete deck at Perryville over the Manexit River, and the approaches thereto, the surface on the approaches consisting of broken stone and tar mixed in place, and the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$18,853.50. Work completed Oct. 27, 1937. Expenditure during 1937, \$15,533.81.

Royalston

April 20, 1937, contract made with Marshall M. Day, of Athol, for constructing two steel pony truss bridges, one at King Street and the other at Baldwinville Road, over Millers River, and the approaches thereto, the surface on the approaches consisting of broken stone and tar mixed in place, and the surfaces on the bridges consisting of bituminous concrete. The proposal amounted to \$60,010.00. Work about one-fifth completed. Expenditure during 1937, \$12,545.68.

Bolton

April 20, 1937, contract made with Rendle Contracting Company, of Boston, for constructing a steel stringer bridge with concrete deck and precast concrete pile bents on Seven Bridge Road over Still River, and the approaches thereto, the surface on the approaches consisting of bituminous macadam, and the surface on the bridge consisting of bitum-

inous concrete. The proposal amounted to \$23,443.00. Work about four-fifths completed. Expenditure during 1937, \$19,414.72.

Gardner-Templeton

April 20, 1937, contract made with Antonio Pandiscio, of Fitchburg, for constructing a steel stringer bridge with concrete floor on Templeton Road over Otter River, and the approaches thereto, the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$8,936.50. Work completed Oct. 18, 1937. Expenditure during 1937, \$6,439.51.

Lunenburg

April 21, 1937, contract made with John Moran, Inc., of Fitchburg, for constructing a steel stringer bridge with concrete deck on Townsend Harbor Road over Mulpus Brook, and the approaches thereto, the surface of the approaches consisting of bituminous treated gravel, and the surface of the bridge consisting of bituminous concrete. The proposal amounted to \$10,728.30. Work completed September 22, 1937. Expenditure during 1937, \$8,987.31.

Athol-Orange

May 18, 1937, contract made with John Iafolla Construction Co., of Dedham, for constructing a steel stringer bridge with a concrete deck at Pinedale over Lawrence Brook, and the approaches thereto, the surface of the approaches consisting of broken stone and tar mixed in place, and the surface of the bridge consisting of bituminous concrete. The proposal amounted to \$23,712.00. Work about four-fifths completed. Expenditure during 1937, \$19,624.45.

Sterling

May 18, 1937, contract made with Sebastiano Cali, of Fitchburg, for constructing a concrete slab bridge on Bridge Road over East Wachusett Brook, and the approaches thereto, the surface of the approaches consisting of broken stone and tar mixed in place, and the surface of the bridge consisting of bituminous concrete. The proposal amounted to \$11,836.05. Work completed October 16, 1937. Expenditure during 1937, \$10,652.65.

Ware

May 19, 1937, contract made with H. P. Cummings Construction Company, of Ware, for constructing a steel stringer bridge with a concrete deck at Gibbs Crossing over Ware River, and the approaches thereto, the surface of the approaches consisting of a penolithic type of pavement, and the surface of the bridge consisting of bituminous concrete. The proposal amounted to \$49,684.70. Work about three-fifths completed. Expenditure during 1937, \$30,836.52.

Northfield

May 19, 1937, contract made with Charles I. Hosmer, Inc., of Greenfield, for constructing a steel stringer bridge with concrete deck on Burnham Road over Mill Brook, and the approaches thereto, the surface on the approaches consisting of broken stone and tar mixed in place, and the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$23,021.70. Work completed Nov. 6, 1937. Expenditure during 1937, \$18,079.67.

Petersham

May 19, 1937, contract made with Basilio Petricca, of Pittsfield, for constructing a steel stringer bridge with concrete deck at Station 66+68.17, over Swift River (East Branch), and the approaches thereto, the surface on the approaches consisting of bituminous macadam, and the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$27,606.00. Work completed Oct. 19, 1937. Expenditure during 1937, \$23,290.22.

Barre

May 19, 1937, contract made with John A. Gaffey & Son, of Medford, for constructing a steel stringer bridge with concrete deck on New Braintree Road over the Ware River, known as Powder Mill Bridge, and the approaches thereto, the surface on the approaches consisting of gravel and tar mixed in place, and the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$30,048.30. Work about one-half completed. Expenditure during 1937, \$16,641.72.

Hadley

June 1, 1937, contract made with Kelleher Corporation, of Montague, for constructing a concrete slab bridge on Main Street over Mill River, and the approaches thereto, the surface course on both bridge and approaches consisting of bituminous macadam. The proposal amounted to \$27,649.40. Work completed Nov. 2, 1937. Expenditure during 1937, \$24,864.23.

Ashfield

June 1, 1937, contract made with Kelleher Corporation, of Montague, for constructing a steel stringer bridge with concrete deck at Spruce Corner over Swift River, and the approaches thereto, the surface on the approaches consisting of bituminous treated gravel, and the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$17,741.00. Work completed September 25, 1937. Expenditure during 1937, \$15,103.45.

Palmer

June 1, 1937, contract made with B. A. Gardetto, Inc., of Boston, for constructing a concrete beam bridge on Main Street, and one on Church Street, both over the Ware River, and approaches thereto, the surface courses for the approaches to both bridges consisting of standard bituminous macadam, and the surface on both bridges consisting of bituminous concrete. The proposal amounted to \$76,227.10. Work about six-sevenths completed. Expenditure during 1937, \$63,260.32.

Ware

June 8, 1937, contract made with H. P. Cummings Construction Company of Ware, for constructing a steel stringer bridge with a concrete deck on Church Street over the Ware River, and approaches thereto, the surface on the approaches consisting of broken stone and tar mixed in place, and the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$44,291.20. Work about three-fourths completed. Expenditure during 1937, \$32,243.94.

Princeton-Sterling

June 15, 1937, contract made with Wachusett Engineering Co., of Fitchburg, for constructing a concrete slab bridge on Redemption Rock Trail over Keyes Brook between the towns of Princeton and Sterling, and approaches thereto, the surface on the approaches consisting of bituminous treated gravel, and the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$11,840.00. Work about five-sixths completed. Expenditure during 1937, \$10,064.08.

Hatfield

June 30, 1937, contract made with Kelleher Corporation, of Montague, for constructing a steel stringer bridge with concrete deck at station 5+54 on Bridge Street over Mill River, and approaches thereto, the surface on the approaches consisting of gravel and tar mixed in place, and the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$40,118.00. Work about three-fourths completed. Expenditure during 1937, \$31,394.32.

Belchertown-Palmer

June 30, 1937, contract made with Frank T. Wescott, of North Attleborough, for constructing a steel stringer bridge of three spans, with a concrete deck, on Depot Street over Swift River, and approaches thereto, the surface on the approaches consisting of bituminous macadam, and the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$54,312.25. Work about three-fifths completed. Expenditure during 1937, \$33,584.99.

Adams

June 30, 1937, contract made with Hubert W. Flaherty, of Adams, for constructing a steel stringer bridge with a concrete deck on Lime Street over the Hoosac River, and approaches thereto, the surface on the approaches consisting of gravel and tar mixed in place, and the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$29,810.75. Work about one-half completed. Expenditure during 1937, \$16,097.72.

Colrain

June 30, 1937, contract made with Charles I. Hosmer, Inc., of Greenfield, for constructing three bridges as follows, and approaches thereto, the surface on the approaches consisting of gravel and tar mixed in place: a concrete rigid frame bridge at the site of the Frank Herzig Bridge over West Branch of North River, a concrete beam bridge over an overflow at the site of the Frank Herzig Bridge and a concrete rigid frame bridge at the site of the Robert Hillman Bridge over the West Branch of the North River. The proposal amounted to \$46,360.40. Work about ten-elevenths completed. Expenditure during 1937, 40,354.25.

Orange

July 6, 1937, contract made with Charles I. Hosmer, Inc., of Greenfield, for constructing a steel stringer bridge, dam, sluice gates and pen-stock extension at Orcutt Brook on Warwick Road, and approaches, the surface on the approaches consisting of broken stone and tar mixed in place, and the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$25,498.50. Work about four-fifths completed. Expenditure during 1937, \$20,043.85.

Uxbridge

July 6, 1937, contract made with Richard White Sons, Inc., of Newton, for constructing a steel stringer bridge with concrete deck on Mendon Street over the Blackstone River, and approaches thereto, the surface on both the bridge and approaches consisting of bituminous concrete. The proposal amounted to \$51,527.30. Work about four-fifths completed. Expenditure during 1937, \$39,892.07.

Princeton

July 6, 1937, contract made with R. H. Newell Company, of Uxbridge, for constructing a steel stringer bridge with concrete deck on Roper's Saw Mill Road over Ware River, and approaches thereto, the surface on the approaches consisting of gravel and tar mixed in place, and the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$10,358.00. Work completed October 30, 1937. Expenditure during 1937, \$8,312.56.

Holden

July 6, 1937, contract made with Charles A. E. LaRose, of Ware, for constructing a concrete beam and slab bridge on River Street over Quinapoxet River, and approaches thereto, the surface on the approaches consisting of gravel and tar mixed in place. The proposal amounted to \$15,584.10. Work completed November 20, 1937. Expenditure during 1937, \$12,669.46.

Charlemont-Shelburne-Colrain

July 7, 1937, contract made with Charles I. Hosmer, Inc., of Greenfield, for constructing two steel arch bridges with concrete decks, as follow, and approaches thereto, the surface on the approaches to the Charlemont-Shelburne bridge consisting of broken stone and tar mixed in place, the surface on the westerly approach to the Colrain bridge consisting of bituminous treated gravel and the surface on the easterly approach to the Colrain bridge consisting of bituminous macadam: one bridge known as Four Mile Square Bridge is to be constructed over the North River in Charlemont and Shelburne, and one bridge is to be constructed on Adamsville Road over the North River, in the town of Colrain, the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$99,591.50. Work about one-twelfth completed. Expenditure during 1937, \$8,927.55

Sutton

July 7, 1937, contract made with A. Grande, of Boston, for constructing a steel stringer bridge with concrete deck on Stevens Street over Mumford River, and approaches thereto, the surface on the approaches consisting of broken stone and tar mixed in place, and the surface over the bridge consisting of bituminous concrete. The proposal amounted to \$25,967.00. Work about two-fifths completed. Expenditure during 1937, \$17,440.68.

Berlin

July 7, 1937, contract made with John Moran, Inc., of Fitchburg, for constructing a steel stringer bridge with concrete deck on Bridge Road over Assabet River, and approaches thereto, the surface on the approaches consisting of gravel and tar mixed in place, and the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$22,998.50. Work about nine-elevenths completed. Expenditure during 1937, \$18,824.31.

Orange

July 7, 1937, contract made with Louis Balboni, Inc., of Boston, for constructing a steel stringer bridge with concrete deck on Holtshire Street over Millers River, and approaches thereto, the surface on the approaches consisting of gravel and tar mixed in place, and the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$33,630.50. Work about one-half completed. Expenditure during 1937, \$14,169.50.

Athol-Orange

July 7, 1937, contract made with Louis Balboni, Inc., of Boston, for constructing a steel stringer bridge with concrete deck at Fryeville over Lawrence Brook, and approaches thereto, the surface on the approaches consisting of broken stone and tar mixed in place, and the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$17,040.80. - Work about two-thirds completed. Expenditure during 1937, \$11,409.16.

Winchendon

July 7, 1937, contract made with G. Bonazzoli & Sons, of Hudson, for constructing a steel stringer bridge with concrete deck on High Street over Millers River, and approaches thereto, the surface on the approaches consisting of gravel and tar mixed in place, and the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$24,310.75. Work about five-sixths completed. Expenditure during 1937, \$19,737.85.

Athol

July 7, 1937, contract made with Charles I. Hosmer, Inc., of Greenfield, for constructing a steel stringer bridge with concrete deck on Crescent Street over Millers River, and approaches thereto, the surface on the approaches and on the bridge consisting of bituminous concrete. The

proposal amounted to \$33,507.00. Work about one-half completed. Expenditure during 1937, \$16,407.55.

Dudley

July 7, 1937, contract made with A. Grande, of Boston, for constructing a steel stringer bridge with a concrete deck on Brandon Road over French River, and approaches thereto, the surface on the approaches consisting of gravel and tar mixed in place, and the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$21,020.50. Work about six-sevenths completed. Expenditure during 1937, \$17,530.20.

Pepperell

June 22, 1937, contract made with Coleman Bros. Corporation, of Boston, for constructing a concrete rigid frame bridge on Mill Street over Nissitissett River, and approaches thereto, the surface on the approaches consisting of gravel and tar mixed in place, and the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$26,147.50. Work about five-sixths completed. Expenditure during 1937, \$22,222.77.

Fitchburg

July 14, 1937, contract made with Wachusett Engineering Co., Inc., of Fitchburg, for constructing a steel stringer bridge with concrete deck on Circle Street over the Nashua River, and approaches thereto, the surface on the easterly approach to the bridge and the surface on the bridge consisting of bituminous concrete, and the surface on the westerly approach to the bridge consisting of granite blocks. The proposal amounted to \$33,654.50. Work about nine-elevenths completed. Expenditure during 1937, \$27,140.53.

Northfield

July 19, 1937, contract made with Warnard Constructors Inc., of Northfield, for constructing a concrete box culvert and steel penstock on Mount Hermon Road at the outlet to Nelson Pond, and approaches thereto, the surface on the approaches consisting of gravel and tar mixed in place. The proposal amounted to \$10,432.00. Work about seven-tenths completed. Expenditure during 1937, \$7,980.65.

Townsend

Aug. 24, 1937, contract made with Antonio Pandiscio, of Fitchburg, for constructing a steel through plate girder bridge with a concrete deck on South Street over Squannacook River, and approaches thereto, the surface on the approaches consisting of gravel and tar mixed in place. The proposal amounted to \$17,834.10. Work about five-ninths completed. Expenditure during 1937, \$9,813.25.

Pepperell

Aug. 25, 1937, contract made with Romano Cement Construction Company of Fitchburg, for furnishing and placing new supports, removing existing walls and constructing a new wall under the mill office and restaurant building of the Nashua Paper Company located on Main Street, over the Nashua River. The proposal amounted to \$3,810.25. Work completed Nov. 13, 1937. Expenditure during 1937, \$3,215.04.

Orange

Aug. 31, 1937, contract made with Charles I. Hosmer, Inc., of Greenfield, for constructing a steel stringer bridge with concrete deck on South Main Street over Millers River, and approaches thereto, the surface on the approaches and on the bridge consisting of bituminous concrete. The proposal amounted to \$71,435.10. Work about one-ninth completed. Expenditure during 1937, \$8,583.30.

Lowell

Nov. 16, 1937, contract made with Frederick W. Byron, of Cambridge, for repairing the Moody Street Bridge over the Merrimack River. The proposal amounted to \$8,602.50. Work not yet started. No expenditure during 1937.

The expenditures during the year under Chapter 429 (Acts of 1936) for the construction of certain bridges in various counties were as follows:

Berkshire	\$ 19,765.15	Hampshire	\$131,505.32
Franklin	221,858.63	Middlesex	135,499.20
Hampden	159,082.61	Worcester	533,449.26

Total			\$1,201,160.17
-----------------	--	--	----------------

Berkshire Co.

<i>Project</i>	<i>Town</i>	<i>Sub-total</i>	<i>Total</i>
WPFR-1	Adams		\$18,899.35
H.B. 5-2	Cheshire		148.23
H.B. 18-1	North Adams		36.40
H.B. 30-2	Sandisfield		578.99
H.B. 39-2	Windsor		102.18

\$19,765.15

Franklin Co.

WPFR-24	Ashfield		17,255.19
H.B. 2-2	Charlemont		630.45
H.B. 2-12	Colrain	\$2,670.34	
H.B. 2-7	Colrain	1,556.30	
WPFR-8	Colrain	32,542.10	
WPFR 5	Colrain	5,509.39	
WPFR 12	Colrain	12,946.24	
WPFR 6	Colrain	11,017.75	
			66,242.12
H.B. 2-8	Conway	143.80	
WPFR 136	Conway	244.98	
			388.78
WPFR 10	Erving		26,764.11
H.B. 2-1	Montague	346.90	
H.B. 2-9	Montague	2,613.21	
WPFR 10	Montague	9,074.28	
			12,034.39
H.B. 2-10	Northfield	2,057.48	
WPFR-17	Northfield	20,896.08	
WPFR 14	Northfield	9,524.69	
			32,478.25
WPFR 22	Orange	22,003.65	
WPFR 18	Orange	10,317.87	
WPFR 21	Orange	16,229.28	
WPFR 19	Orange	6,903.96	
WPFR 20	Orange	10,260.01	
			65,714.77
H.B. 2-4	Warwick		127.93
H.B. 2-3	Wendell		222.64

\$221,858.63

Hampden Co.

WPFR 36	Belchertown-Palmer		36,231.70
H.B. 4-18	Blandford	64.61	
H.B. 4-2	Blandford	174.50	

239.11

P.D. 54					33
H.B. 3-38	Brimfield			245.56	
H.B. 3-39	Brimfield			197.09	
					442.65
H.B. 6-2	Chester				80.90
H.B. 2-5	Easthampton				280.13
WPFR-33	Ludlow				25,468.62
WPFR 34	Palmer			37,855.71	
WPFR 35	Palmer			33,837.06	
					71,692.77
WPFR 33	Wilbraham				24,646.73
					\$159,082.61

<i>Hampshire Co.</i>					
<i>Project</i>	<i>Town</i>		<i>Sub-total</i>		<i>Total</i>
WPFR-29	Hadley				\$27,028.65
WPFR 30	Hatfield		34,591.90		
H.B. 2-11	Hatfield		786.80		
H.B. 2-13	Hatfield		25.00		
					35,403.70
H.B. 2-6	Ware		1,834.39		
WPFR 32	Ware		34,570.45		
WPFR 31	Ware		32,668.13		
					69,072.97
					\$131,505.32

<i>Middlesex Co.</i>					
H.B. 4-25	Acton				1,879.02
H.B. 4-15	Dracut				337.53
H.B. 4-9	Framingham				3.75
H.B. 4-24	Hudson				78.75
WPFR-39	Lowell		606.24		
H.B. 4-19	Lowell		2,528.53		
H.B. 4-12	Lowell		96.00		
					3,230.77
H.B. 4-23	Maynard				3,715.02
WPFR-42	Pepperell		25,642.66		
WPFR 43 No.1	Pepperell		76,830.27		
WPFR 43 No.2	Pepperell		3,589.97		
H.B. 4-6	Pepperell		1,006.49		
					107,069.39
H.B. 4-4	Shirley		453.67		
H.B. 4-5	Shirley		481.80		
H.B. 4-22	Shirley		2,705.63		
					3,641.10
WPFR-45	Townsend		11,214.38		
H.B. 4-11	Townsend		554.80		
H.B. 4-20	Townsend		3,774.69		
					15,543.87
					\$135,499.20

<i>Worcester Co.</i>					
H.B. 3-35	Ashburnham		422.71		
H.B. 3-60	Ashburnham		369.29		
H.B. 3-66	Ashburnham		1,930.55		
H.B. 3-95	Ashburnham		1,069.05		
H.B. 3-67	Ashburnham		50.00		
H.B. 3-86	Ashburnham		403.12		
H.B. 3-78	Ashburnham		923.85		
H.B. 3-36	Ashburnham		160.05		
H.B. 3-80	Ashburnham		2,250.22		
					7,578.84

H.B. 3-15	Athol	260.81	
H.B. 3-97	Athol	1,350.45	
H.B. 3-70	Athol	1,250.58	
H.B. 3-64	Athol	453.81	
WPFR 53	Athol	17,277.11	
WPFR 19	Athol	6,694.55	
WPFR 20	Athol	11,222.43	
			38,509.74
WPFR 58	Barre	18,676.08	
WPFR 59	Barre	25,530.47	
H.B. 3-100	Barre	2,321.13	
			46,527.68
H.B. 3-22	Berlin	268.78	
WPFR 60	Berlin	19,541.94	
			19,810.72
H.B. 3-28	Blackstone		507.57
WPFR-61	Bolton		21,302.28
H.B. 3-58	Charlton	417.22	
H.B. 3-55	Charlton	498.36	
H.B. 3-84	Charlton	923.54	
H.B. 3-17	Charlton	144.25	
			1,983.37
H.B. 3-77	Clinton		2,429.18
H.B. 3-34	Dana	12.60	
H.B. 3-33	Dana	330.97	
			343.57
WPFR 66	Dudley	18,865.39	
H.B. 3-16	Dudley	250.03	
WPFR 67	Dudley	8,772.71	
			27,888.13
H.B. 3-46	E. Brookfield		21.60
H.B. 3-43	Fitchburg	1,951.36	
WPFR 69	Fitchburg	29,399.81	
			31,351.17
WPFR 106	Gardner		4,110.75
H.B. 3-41	Grafton		438.04
H.B. 3-32	Hardwick	33.87	
H.B. 3-37	Hardwick	14.17	
H.B. 3-14	Hardwick	3.20	
			51.24
H.B. 3-94	Holden	2,208.52	
H.B. 3-72	Holden	1,618.57	
WPFR 71	Holden	14,029.54	
			17,856.63
H.B. 3-29	Hubbardston	64.42	
H.B. 3-19	Hubbardston	25.96	
H.B. 3-57	Hubbardston	45.75	
			136.13
WPFR 76	Lancaster		49,620.13
H.B. 3-2	Leicester	187.86	
H.B. {3-3 &	Leicester	525.31	
{3-12			
H.B. 3-40	Leicester	20.63	
H.B. 3-4	Leicester	20.63	
			754.43
H.B. 3-11	Leominster	118.76	
WPFR 77	Leominster	43,538.36	
			43,657.12

WPFR 78	Lunenburg	10,316.16	
H.B. 3-5	Lunenburg	145.26	
H.B. 3-62	Lunenburg	2,224.13	
			12,685.55
H.B. 3-20	Mendon		276.97
H.B. 3-82	Millbury		1,363.87
H.B. 3-47	Oxford	146.96	
H.B. 3-83	Oxford	618.24	
H.B. 3-7	Oxford	346.19	
WPFR 82	Oxford	784.31	
			1,895.70
H.B. 3-30	Petersham	66.99	
H.B. 3-56	Petersham	701.57	
H.B. 3-81	Petersham	2,509.90	
WPFR 86	Petersham	24,592.64	
			27,871.10
H.B. 3-51	Phillipston		16.07
H.B. 3-96	Princeton	10.00	
H.B. 3-71	Princeton	2,279.05	
H.B. 3-21	Princeton	48.56	
WPFR 87	Princeton	9,185.87	
WPFR 90	Princeton	5,839.08	
			17,362.56
WPFR 91	Royalston	3,662.51	
WPFR 133	Royalston	12,421.65	
H.B. 3-61	Royalston	2,050.22	
H.B. 3-50	Royalston	340.38	
H.B. 3-69	Royalston	1,042.38	
H.B. 3-49	Royalston	359.38	
			19,876.52
H.B. 3-98	Rutland	2,055.63	
H.B. 3-99	Rutland	738.82	
			\$2,794.45
H.B. 3-59	Southbridge		1,197.78
H.B. 3-13	Spencer	345.94	
H.B. 3-91	Spencer	1,277.42	
H.B. 3-89	Spencer	937.35	
H.B. 3-68	Spencer	70.00	
H.B. 3-87	Spencer	50.00	
			2,680.71
WPFR 90	Sterling	5,839.09	
WPFR 104	Sterling	12,130.59	
H.B. 3-25	Sterling	778.67	
H.B. 3-23	Sterling	1,171.07	
H.B. 3-26	Sterling	468.13	
H.B. 3-24	Sterling	712.19	
			21,099.74
WPFR 105	Sutton		19,387.00
WPFR 3-73	Templeton	2,211.03	
WPFR 106	Templeton	3,843.48	
			6,054.51
H.B. 3-74	Upton	1,581.70	
H.B. 3-90	Upton	911.19	
H.B. 3-54	Upton	484.69	
			2,977.58
H.B. 3-63	Uxbridge	993.75	
H.B. 3-9	Uxbridge	463.60	
WPFR 112	Uxbridge	41,764.99	
			43,222.34

			P.D. 54
H.B.	3-79	Warren	1,820.76
WPFR	67	Webster	8,248.45
H.B.	3-27	Westborough	244.29
H.B.	3-1	W. Boylston	707.67
H.B.	3-45	W. Brookfield	17.55
H.B.	3-48	W. Brookfield	17.55
			35.10
H.B.	3-65	Westminster	1,821.81
H.B.	3-75	Winchendon	30.75
H.B.	3-76	Winchendon	1,086.09
H.B.	3-88	Winchendon	100.00
H.B.	3-93	Winchendon	90.00
H.B.	3-92	Winchendon	40.00
H.B.	3-85	Winchendon	544.55
WPFR	122	Winchendon	655.41
WPFR	124	Winchendon	21,257.59
WPFR	126	Winchendon	70.37
			23,874.76
H.B.	3-42	Worcester	1,055.65
			\$533,449.26

RECONSTRUCTION AND REPAIR OF STATE HIGHWAYS DAMAGED BY FLOODS

In accordance with the provisions of Chapter 186 of the Acts of 1936, an Act making an emergency appropriation for the reconstruction and repair of State Highways damaged by floods, the following contracts were entered into:—

Sutton

January 25, 1937, contract made with Leo J. Nawn, Inc., of Boston, for constructing a steel stringer bridge with concrete deck at station 29+24.42 on Manchaug Street over Mumford River, and approaches thereto, the surface on the approaches consisting of bituminous macadam, and the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$20,482.90. Work completed Oct. 2, 1937. Expenditure during 1937, \$18,997.03.

Fitchburg

March 24, 1937, contract made with David Pellecchia & Co., of Leominster, for constructing a concrete box bridge at station 15+91.5 over Baker Brook, and approaches thereto, the surface on the approaches consisting of bituminous macadam. The proposal amounted to \$13,339.45. Work completed October 30, 1937. Expenditure during 1937, \$12,236.65.

Winchendon

April 20, 1937, contract made with B. A. Gardetto, Inc., of Boston, for constructing a concrete slab bridge of two spans at station 76+36.13 on Maple Street over Millers River, and a steel stringer bridge with concrete deck at station 8+71.95 on Ashburnham Road over Millers River, and approaches thereto, the surface on the approaches consisting of bituminous macadam, and the surface on the bridges consisting of bituminous concrete. The proposal amounted to \$30,129.50. Work completed Oct. 22, 1937. Expenditure during 1937, \$25,040.84.

Sutton

July 19, 1937, contract made with Middlesex Construction Company, of Framingham, for constructing a concrete retaining wall at about station 28+90 connecting with the southeasterly wing wall of the proposed State Highway Bridge over Mumford River, together with a gravel driveway and incidental work. The proposal amounted to \$2,274.50. Work completed Oct. 16, 1937. Expenditure during 1937, \$1,985.48.

BRIDGES OVER CONNECTICUT RIVER AND MERRIMACK RIVER

In accordance with the provisions of Chapter 433 of the Acts of 1936, an Act providing for the construction or reconstruction of three bridges over the Connecticut River and one bridge over the Merrimack River, the following contracts were entered into:—

Lowell

Jan. 26, 1937, contract made with Coleman Bros. Corporation, of Boston, for constructing a temporary foot bridge of the suspension type over the Merrimack River southerly of Central Bridge, together with a lighting system, and approaches thereto. The proposal amounted to \$34,980.00. Work completed June 30, 1937. Expenditure during 1937, \$34,358.08.

Gill-Montague

May 10, 1937, contract made with Daniel O'Connell's Sons, Inc., of Holyoke, for constructing a deck steel bridge of six spans with a concrete deck at Turners Falls, over the Connecticut River, a canal and a spur track of the New York, New Haven and Hartford Railroad Company, and approaches thereto, the surface course on the approaches and ramps consisting of bituminous macadam, and the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$860,567.89. Work about one-third completed. Expenditure during 1937, \$328,487.92.

Lowell

May 19, 1937, contract made with Coleman Bros. Corporation of Boston, for constructing a three span steel bridge of the cantilever through truss type, to be known as Central Bridge, on Bridge Street over the Merrimack River, the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$318,909.00. Work about one-fifth completed. Expenditure during 1937, \$64,092.15.

Deerfield-Sunderland

July 7, 1937, contract made with F. & M. Sand & Gravel Corporation of Woburn, for constructing about 1,937 feet of approaches to the Connecticut River Bridge in Deerfield and Sunderland, the surface course consisting of bituminous macadam. The proposal amounted to \$57,161.60. Work about three-fifths completed. Expenditure during 1937, \$34,510.07.

Lowell

Oct. 8, 1937, contract made with Coleman Bros. Corporation of Boston, for constructing a steel stringer bridge with concrete deck on Bridge Street over Eastern Canal, and approaches thereto, the surface on the approaches consisting of bituminous concrete. The proposal amounted to \$22,850.75. Work not yet commenced. No expenditure during 1937.

Hadley-Northampton

Nov. 2, 1937, contract made with T. Stuart & Son Company, of Watertown, for constructing a five span steel deck truss bridge with concrete floor, to be known as the Calvin Coolidge Memorial Bridge, over the Connecticut River between Hadley and Northampton, and approaches and ramps thereto, the surface on the approaches and ramps consisting of standard bituminous macadam, and the surface over the bridge consisting of bituminous concrete. The proposal amounted to \$1,193,230.95. Work just commenced. Expenditure during 1937, \$1,496.00.

REPAIR OF SLADES FERRY BRIDGE

In accordance with the provisions of Chapter 488 of the Acts of 1935, an Act reallocating the cost of the repair of the Slades Ferry Bridge, so called, over the Taunton River, the following contract was entered into:—

Fall River-Somerset

August 11, 1937, contract made with Coleman Bros. Corporation, of Boston, for reconstructing as a single deck bridge the existing double

deck bridge over the Taunton River known as Slades Ferry Bridge. The proposal amounted to \$224,490.00. Work just commenced. Expenditure during 1937, \$16,188.67.

HUNTINGTON AVENUE OVERPASS

In accordance with the provisions of Chapter 380 of the Acts of 1934, an Act authorizing the construction of an overpass over Huntington Avenue at or near its intersection with Riverway and Jamaica way in Boston and Brookline, as amended by Chapter 368 of the Acts of 1935, the following contract was entered into:—

Boston

July 14, 1937, contract made with Edward M. Matz, Inc., of Boston, for constructing a steel pile and concrete viaduct on the southerly approach to the bridge over Huntington Avenue at Riverway-Jamaicaway and miscellaneous work, the surface of the viaduct consisting of bituminous concrete. The proposal amounted to \$91,184.60. Work about two-thirds completed. Expenditure during 1937, \$59,188.88.

SIDEWALK, GEORGE WASHINGTON HIGHWAY, HINGHAM

In accordance with the provisions of Chapter 464 of the Acts of 1935, an Act providing a public works program for the purpose of alleviating existing conditions resulting from unemployment, the following contract was entered into:—

Hingham

Aug. 3, 1937, contract made with Edward M. Matz, Inc., of Boston, for constructing a granolithic walk, a gravel shoulder and a loam area in front of the County Court House in Hingham, on the George Washington Highway. The proposal amounted to \$1,529.75. Work completed Sept. 18, 1937. Expenditure during 1937, \$1,405.77.

DRIVEWAY, MONSON STATE HOSPITAL

In accordance with the provisions of Item 498, Chapter 304 of the Acts of 1936, an Act making appropriations for the maintenance of Departments, Boards, Commissions, Institutions, etc., the following contract was entered into by the Department, for the Department of Mental Diseases:—

Monson

April 20, 1937, contract made with S. Rotondi & Sons, of Stoneham, for constructing a driveway at the Monson State Hospital, at about station 0+00 on the southerly side of the Dining Room and Kitchen and extending around the easterly side of the hospital building to about station 3+60 on the Main Drive, the surface consisting of a penolithic type of surfacing. The proposal amounted to \$12,092.30. Work completed Nov. 24, 1937. Expenditure during 1937, \$10,703.20.

ABOLITION OF GRADE CROSSINGS

*(General Laws, Section 70, Chapter 159, as amended by
Section 1, Chapter 357 of the Acts of 1934)*

The following contracts were entered into for the elimination of grade crossings:—

Attleboro-Pawtucket

Feb. 2, 1937, contract made with Arute Bros., Incorporated, of Bridge-water, for constructing a steel stringer bridge of three spans with a concrete deck on Washington Street in Attleboro, at station 268+82.71, over the New York, New Haven and Hartford Railroad, and approach thereto, the surface on the approach consisting of two lanes of cement concrete and three lanes of bituminous macadam, and the surface on the

bridge consisting of bituminous concrete. The proposal amounted to \$80,210.73. Work completed Aug. 24, 1937. Expenditure during 1937, \$66,562.02.

Huntington

May 26, 1937, contract made with Arute Bros., Incorporated, of Bridgewater, for constructing a multiple span bridge at Main Street over Westfield River, over the tracks of the Boston and Albany Railroad and over a proposed roadway, together with a ramp, stairways and other structures, and approaches thereto, the surface on the approaches consisting of bituminous macadam, and the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$289,824.65. Work about one-half completed. Expenditure during 1937, \$139,077.26.

Milford

June 8, 1937, contract made with M. DeMatteo Co., of Roslindale, for constructing a three span steel stringer bridge with concrete deck at station 10+96.68 on Medway Street, over the Boston and Albany Railroad (Milford Branch), and approaches thereto, the surface course for the approaches consisting of bituminous macadam, and the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$103,307.65. Work about one-half completed. Expenditure during 1937, \$54,468.48.

Braintree

June 22, 1937, contract made with M. F. Gaddis, Inc., of Boston, for constructing a steel plate girder bridge to carry the tracks of the New York, New Haven and Hartford Railroad over Union Street in Braintree, 0.36 miles north of South Braintree Station, and about 1,600 feet of highway on new location, the surface consisting of bituminous macadam. The proposal amounted to \$155,339.55. Work about one-third completed. Expenditure during 1937, \$57,834.62.

The following contracts were entered into in connection with the elimination of grade crossings:—

Quincy

August 25, 1937, contract made with Chandler Construction Company, Inc., of Boston, for constructing canopies, shelter shed, lighting system and miscellaneous work at the site of the bridge on Water Street over the New York, New Haven and Hartford Railroad. The proposal amounted to \$19,739.00. Work completed November 30, 1937. Expenditure during 1937, \$16,377.38.

Sharon

Nov. 16, 1937, contract made with Walter L. Ritchie, of Somerville, for constructing canopies, shelter shed, lighting system, intertrack fence and miscellaneous work at the site of the bridge on Depot Street over the New York, New Haven and Hartford Railroad. The proposal amounted to \$9,789.00. Work not yet commenced. No expenditure during 1937.

RECONSTRUCTION OR REPAIR OF CITY AND TOWN BRIDGES DAMAGED BY THE 1936 FLOODS

Work done by force account under provisions of Chapter 429, Acts of 1936

The work done under Chapter 429, Acts of 1936, for the reconstruction of city and town bridges was done by force account and as W.P.A. projects. A total of 115 such projects were approved, 55 bridges being rebuilt to replace those that had been destroyed, and repairs were made to 60 bridges damaged by the flood.

55 BRIDGES REPLACED WITH NEW STRUCTURES

Acton—River Street over Fort Pond Brook, new multi-plate arch bridge, stone faced, one 23 foot span, two 9 foot spans.

Ashburnham—Fitchburg Road over an outlet of Billy Ward Pond, new standard 19 x 6 box type bridge, one 19 foot span.

Ashburnham—Lake Road over Watatic Club Brook, new rigid frame box type bridge, one 15 foot span.

Ashburnham—Main Street, Auto route 12, over Phillips Brook, new reinforced concrete slab on gravity abutments with rubble masonry walls, one 15 foot span.

Ashburnham—Sherbert Road (23-A) over Naumkeag Brook, new reinforced concrete deck on steel stringers on gravity abutments, one 20 foot span.

Ashburnham—Sherbert Road (23-B) over Millers River, new reinforced concrete deck on steel stringers on concrete abutments, one 17 foot span.

Ashburnham—Williams Street over Town Farm Brook, new concrete slab on gravity abutments, one 8 foot span.

Athol—New Salem Road, Auto Route 21 over Oliver Brook, new rigid frame box type bridge, one 11 foot span.

Athol—Washington Avenue over Oliver Brook, new concrete slab on steel stringers on gravity abutments, one 26 foot span.

Barre—Mechanic Street over Prince River, new multiple metal arch on concrete abutments with rubble stone masonry wing walls, one 19 foot span.

Blandford—School House Hill over Freeland Brook, new corrugated multi-plate arch bridge, one 15 foot span.

Charlemont—Warner Bridge over Mill Brook, new plank floor on steel I beams on cement rubble masonry abutments with cement rubble masonry wing walls, one 18 foot span.

Charlton—Grover Road over Little River, new wooden superstructure of plank floor on 6" x 14" stringers on cement rubble masonry abutments, one 20 foot span.

Charlton—Oxford Road over Little River, rubble masonry arch bridge removed and rebuilt, new rubble masonry walls, one 19 foot span.

Clinton—Brook Road over Counterpane Brook, new rigid frame box type bridge, one 11 foot span.

Colrain—Adamsville Bridge over Sanders Brook, new reinforced concrete slab bridge with rubble concrete abutments and wing walls, one 17.83 foot span.

Colrain—Starkey Bridge over West Branch River tributary, new reinforced concrete slab bridge with rubble concrete abutments and wing walls, one 20 foot span.

Fitchburg—Townsend Street over Bakers Brook, new reinforced concrete slab deck on steel stringers on stone masonry abutments, one 32 foot span.

Hatfield—Chestnut Street over overflow for Mill River, four 48" corrugated metal pipes protected by rip rap.

Holden—Mill Creet over Quinapoxet River, new reinforced concrete deck on steel stringers over 30 foot center span, reinforced concrete slab over two 10.5 foot end spans, on plain concrete abutments and cement rubble masonry piers.

Holden—Princeton Road over Quinapoxet River, new corrugated metal arch on concrete abutments with rubble masonry wing walls, one 23 foot span.

Leicester—Cross Street over Stream not named, a 20" pipe culvert was replaced by a 48" C.C.M. pipe culvert with rubble stone masonry ends.

Leicester—Mulberry Street over Kettle Brook, new standard 14 foot by 6 foot reinforced concrete box type bridge, one 6 foot span.

Leicester—Pine Street over Twin Meadow Brook, new standard 14 foot by 6 foot box type bridge, one 14 foot span.

Lunenburg—Cross Street over Mulpus Brook, new wooden king post truss with wooden floor beams and plank floor on rubble stone masonry abutments, one 20 foot span.

Lunenburg—Young Road over Baker Brook, new concrete deck on steel stringers on cement rubble masonry abutments, one 26 foot span.

Maynard—Mill Street over Assabet River, new three span multi-plate arch bridge on two piers and two abutments of cement rubble masonry with concrete caps, two 20 foot spans, one 22 foot span.

Mendon—George Street over Muddy Brook, new standard 14 foot by 6 foot box type bridge, one 10 foot span.

Montague—Central Street over Saw Mill River, new reinforced concrete deck on steel I beams on rubble concrete abutments, one 30 foot span.

Northfield—Warwick Road over Mill Brook, new reinforced concrete deck on steel I beams on rubble concrete abutments, one 25 foot span.

Oxford—Texas Road over French River, new 5 foot by 5 foot box culvert added to increase capacity of adjacent bridge, cement rubble masonry abutments and wing walls, one 5 foot span.

Pepperell—Shirley Street over branch of Nashua River, new twin five foot metal culverts encased in concrete with rubble concrete end walls, two five foot spans.

Petersham—Glen Valley Road over East Branch of Swift River, new rigid frame bridge on one new abutment (West) of cement rubble masonry, existing East abutment raised to grade, one 30 foot span.

Phillipston—Royalston Road over Stream not named, new twin 60" C.C.M. pipe culverts with cement rubble masonry end walls.

Princeton—East Princeton Road, auto Route 62 over East Wachusett Brook, new reinforced concrete deck on concrete gravity abutments, one 15 foot span.

Royalston—N. E. Fitzwilliam Road over Lawrence Brook, new concrete slab deck on steel stringers on cement rubble masonry abutments, one 25 foot span.

Royalston—Winchendon Road over Priest Brook, new reinforced concrete deck on steel stringers on cement rubble masonry abutments, one 30 foot span.

Rutland—Intervale Road over Ware River, new three span bridge of reinforced concrete slabs on steel stringers, two concrete piers, two concrete gravity abutments, two 18.7 foot spans, one 27.5 foot span.

Rutland—Lower Intervale Road over Ware River, new concrete abutments and wooden plank floor on steel stringers, one 50 foot span.

Sandisfield—West New Boston Road over Clam River, new 7" reinforced concrete floor over steel I beams on concrete abutments and wing walls, one 50 foot span.

Southbridge—Cisco Street over Cohasse Brook, new reinforced concrete slab on concrete gravity abutments, one 12 foot span.

Spencer—Cooney Road over Seven Mill Brook, new reinforced concrete deck over steel stringers on concrete gravity abutments, one 20 foot span.

Spencer—Dewey Street over Meadow Brook, new standard 6 foot by 6 foot box culvert, one 6 foot span.

Sterling—Greenland Road over Connolly Brook, new standard 10 foot by 6 foot box type bridge, one 10 foot span.

Sterling—Pratt Junction Road over Wekepeke Brook, new reinforced concrete slab on concrete gravity walls, one 10 foot span.

Sterling—Pratt Junction Road over Wekepeke Brook, new reinforced concrete slab on concrete gravity walls, one 10 foot span.

Townsend—Meadow Road over Willard Brook, new cement rubble masonry pier, wooden stringers and wood decks, existing abutments chinked, one 16.5 foot span, one 20 foot span.

Townsend—Turnpike Road over Squannacook River, one abutment replaced with pier, new abutment built, new 21.5 foot span of reinforced concrete slab on steel girders built, existing slab over steel girders on 36 foot span removed and replaced, existing abutment repaired.

Upton—West Street over West River, new reinforced concrete slab over steel stringers on concrete abutments, one 23 foot slab.

Uxbridge—Elm Street over Rivulet Brook, new reinforced concrete rigid frame box type bridge, two 9 foot spans.

Warren—Bliss Road over Tufts Brook, new reinforced concrete deck over steel stringers on concrete gravity abutments, one 18.5 foot span.

West Boylston—Lee Street over Malden Brook, new twin 54" reinforced concrete pipe culverts with rubble masonry head walls.

Westminster—Whitmanville Bridge on North Common Road over Branch of Whitman River, new reinforced concrete slab deck over steel stringers on gravity abutments, one 27 foot span.

Winchendon—Rindge Road, Auto Route 202, over Millers River, reinforced concrete slab on concrete abutments and concrete center pier, two 16.5 foot spans.

Windsor—Main Street over Housatonic River, new 7" reinforced concrete floor over steel I beams on new West abutment of rubble concrete and widened and repaired East abutment, new wing walls for West abutment, wing walls of East abutment repaired and lengthened, one 19.5 foot span.

60 BRIDGES REPAIRED

Ashburnham—Dunn Road over Branch of Miller River, North abutment built of plain cement concrete, South abutment and footing repaired, one 19.5 foot span.

Ashburnham—Whitney Hill Road over Phillips Brook, new stone West abutment, East stone abutment repaired, new wooden superstructure of 6" x 10" stringers and plank floor, one 18 foot span.

Ashby—Valley Road over Willard Brook, stone abutments and copings repaired, one 18 foot span.

Athol—New Sherborn Road over Oliver Brook, concrete arch and wing walls repaired, one 18 foot span.

Athol—White Pond Road over White's Brook, South abutment of plain concrete replaced, stone masonry wing walls pointed, concrete toe placed under North abutment, one 11 foot span.

Berlin—Town Road over North Brook, northwest wing wall and West section of North abutment removed and replaced with plain concrete, one 17 foot span.

Blackstone—Lincoln Street over Fox Brook, cement rubble masonry West abutment and wing wall rebuilt, sections of stone slab replaced, one 9 foot span.

Blandford—Hiram Blair Road over Pond Brook, stone abutments and wing walls repaired and faced, new wooden plank floor placed on existing steel I beams, one 20 foot span.

Brimfield—Holland Road over Mill Brook, footing of plain concrete placed under East abutment which was also built up to level grade, one 20 foot span.

Charlton—Blood Road over Blood Brook, concrete toe placed on abutments, northeast section of cement rubble masonry arch rebuilt, new footing of plain concrete for this same arch, one 16 foot span.

Charlton—Turner Road over Little River, northeast section of cement rubble masonry arch rebuilt, one 17 foot span.

Cheshire—Windsor Road over South Brook, 7" reinforced concrete floor built over existing steel I beams. West abutment removed and rebuilt of concrete with concrete wing walls, one 19.5 foot span.

Chester—Herring Road over East Branch of Westfield River, North abutment removed and replaced with new concrete abutment and wing walls, one 53.3 foot span.

Dana—Dana Center Road over Fever Brook, plain concrete toe placed on existing abutments, channel cleared and riprapped, one 20.5 foot span.

Dana—New Salem Road over East Branch of Swift River, cement rubble masonry abutments repaired, necessary wood plank replaced, one 31 foot span.

Dracut—Navy Yard Bridge, auto route 113, over Beaver Brook,

spandrel walls reset and faced, masonry arches cradled in cement concrete, new B. M. A. surface, one 25 foot span and one 26 foot span.

Dudley—West Dudley Road over Quinapoxet River, existing southeast wing wall of cement rubble masonry repaired with plain concrete, northwest wing repaired and faced with plain concrete, steel stringers painted, East half of wood planking replaced, one 90 foot span.

East Brookfield—Cove Street over Mill Brook, stone abutments repaired and pointed, wooden truss members repaired, wooden floor beams and planking replaced, one 44.5 foot span.

Easthampton—At Southampton line, Glendale Village Bridge over North Branch of Manhan River, existing footings and abutments faced with plain concrete, wing walls faced and extended, one 46 foot span.

Framingham—Framingham Stone Bridge over Sudbury River. Work on this dry stone masonry arch bridge had just started when work was stopped by W.P.A. as not being flood damage, four 10 foot spans.

Grafton—Depot Street over Blackstone Canal, after work was started on this project, it was found that the damage was beyond scope of proposal. Project submitted as a contract project but was rejected, later revised and submitted as a force account project but was rejected, one 18' span.

Hardwick—Hell Huddle Road over Swift River, new cement rubble masonry abutment (South) new wooden king post truss with wooden floor beams and plank from new abutment to center pier only, center pier repaired, no work done to North span, two 28 foot spans.

Hardwick—Southworth Mills Road over East Branch of Swift River, North abutment and pier rebuilt with dry rubble masonry, timber bent built on site of South abutment, new two span wooden king post truss, stringers, and floor plank, one 16 foot span, one 23 foot span, one 25 foot span.

Hardwick—Taylor Hill Road over Moose Brook, stone abutments repaired and pointed, wooden floor replaced with reinforced concrete slab, one 16 foot span.

Hubbardston—Lombard Road over outlet of Ropers Reservoir, North abutment rebuilt of dry rubble masonry, South abutment faced, new superstructure of wooden stringers and plank, one 15 foot span.

Hubbardston—New Road over outlet of Brigham's Pond, existing abutments faced with concrete, new king post truss with wooden floor beams and floor plank, one 20 foot span.

Hubbardston—Ragged Hill Road over Templeton Brook, existing dry rubble masonry abutments and wing walls repaired, one 10 foot span.

Hudson—Washington Street over Assabet River, dry rubble masonry arch repaired, three 20 foot spans.

Leicester—Auburn Street over Kettle Brook, stone masonry arch and wing walls repaired with cement rubble masonry, one 18.2 foot span.

Leominster—Lancaster Street over Fall Brook, stone masonry abutments pointed and repaired with cement rubble masonry, new reinforced concrete slab to replace stone slab, one 10 foot span.

Lowell—East Merrimac Street, Auto route 38 over Concord River, superstructure of existing structure cleaned and painted, two 60 foot spans.

Lowell—Lawrence Street, Auto route 138 over Concord River, existing abutments patched with cement mortar, surface replaced, six 30 foot spans.

Milbury—Cemetery Road over Blackstone River, new concrete pier to replace damaged South abutment, new South abutment of plain concrete, North abutment faced, new South span (22) of reinforced concrete over steel stringers, one 22 foot span, one 46.5 foot span.

Montague—Chestnut Street over Saw Mill Brook, existing N. E. and S. E. wing walls extended with rubble concrete, existing abutments and S. W. and N. W. wing walls of dry rubble masonry faced with reinforced concrete one foot thick, one 27.5 foot span.

North Adams—Brown Street over Hoosac River, steel sheeting driven along the front of existing South abutment, concrete cap placed between abutment and sheeting, two 44 foot spans.

Oxford—Old Webster Road over Little River, washed out portion of North arch replaced with reinforced concrete, parapet walls replaced with cement rubble masonry, two 13 foot spans.

Palmer—At Brimfield line, Palmer-Brimfield Road over Quaboag River, existing stone masonry piers and abutments pointed with cement mortar, rubble masonry toe built on both abutments, weakened wooden truss members replaced, one 25 foot span, one 27 foot span.

Petersham—Quaker Drive over Moccasin Brook, existing stone abutments repaired and pointed new superstructure of wooden stringers and plank floor, one 12 foot span.

Petersham—Quaker Drive over Swift River, west abutment rebuilt with cement rubble masonry, East abutment pointed, one 26 foot span.

Princeton—Hubbardston Road, auto route 62 over Branch of Ware River, replace washed out gravel and riprap, one 32 foot span.

Royalston—North Fitzwilliam Road over Lawrence Brook, existing South abutment repaired with cement rubble masonry, new North abutment built with cement rubble masonry, new wooden superstructure of wooden stringers and plank floor, one 25 foot span.

Royalston—North Fitzwilliam Road over Lawrence Brook, existing dry rubble abutments repaired and raised with cement rubble masonry, new wooden superstructure of wood stringers and plank floor, one 18 foot span.

Shirley—Longley Road over Mulpus Brook, footings replaced with plain concrete, existing abutments repaired, one 16.5 foot span.

Shirley—At Groton line, Lunenburg Road, Auto Route 25, over Squanacook River, existing abutments and wing walls repaired with reinforced concrete, new reinforced concrete abutment and wing walls added to make additional 22.5 foot span, reinforced concrete slab over new span, new B.M.A. surface and approaches to replace washed out roadway, one 25 foot span, one 22.5 foot span.

Shirley—Townsend Road over Mulpus Brook, washed out footings replaced with plain concrete, existing abutments repaired, one 20 foot span.

Spencer—Lower Wire Village over Turkey Hill Brook, existing abutments repaired with cement rubble masonry, new reinforced concrete slab built encasing existing steel I beams, one 20 foot span.

Sterling—Princeton Road, Auto route 62 over Stillwater River, damaged West abutment replaced with plain concrete abutment and wing walls, one 30 foot span.

Templeton—Depot Street over Otter River, North abutment replaced with plain concrete, foundation of South abutment repaired with plain concrete, damaged pipe culvert on side road replaced with 48" pipe with new ends, one 23 foot span.

Townsend—Ashby Road over Willard Brook, existing abutments repaired with cement rubble masonry and pointed with cement mortar, one 34 foot span.

Upton—Pleasant Street over West River, existing wooden superstructure replaced on two new concrete abutments and two rubble stone masonry piers, one 18 foot span, two 12.3 foot spans.

Upton—Williams Street over West River, northwest portion of arch and northwest wing wall of existing structure repaired and rebuilt with cement rubble masonry, one 20 foot span.

Uxbridge—Hartford Avenue over Blackstone River, existing stone arch bridge abutments faced with plain concrete, replaced portion of bridge floor with reinforced concrete, one 38 foot span.

Ware—East Street, Auto Route 9 over Ware River, North spandrel wall of cut stone arch bridge relaid with cement rubble masonry, washed out surface replaced with B.M.A. surfacing, one 60 foot span.

Warwick—Hockinum Road over Wilson Brook, existing dry rubble masonry abutments pointed and repaired, new reinforced concrete slab deck, one 11.5 foot span.

Wendell—Wendell Depot Road over Osgood Brook, new North abutment built of cement rubble masonry, new reinforced concrete slab deck, one 10 foot span.

Westborough—Fisher Street over Assabet River, existing abutments repaired, new reinforced concrete deck, one 14.2 foot span.

West Brookfield—Foster Hill Road over Tannery Brook, existing West abutment repaired, East abutment rebuilt with cement rubble masonry, new wooden superstructure of king post truss, floor beams, and plank floor, one 20 foot span.

West Brookfield—Long Hill Road over Quaboag River, existing North abutment pointed, South abutment rebuilt with cement rubble masonry, lumber planking replaced where necessary over floor of existing two span steel truss highway bridge, two 53 foot spans.

Winchendon—South Royalston Road over Priest Brook, existing abutments faced with plain concrete, new reinforced concrete deck over new steel stringers, one 17 foot span.

Worcester—Park Avenue, Auto Route 12, over outlet of Coes Reservoir, West side of existing arch culvert rebuilt with cement rubble masonry, concrete fence built along West side, concrete toe built along whole length of inside of arch, one 17 foot span.

EXPENDITURES FOR EMERGENCY PUBLIC WORKS CONSTRUCTION

(Chapter 365 Acts of 1933)

(An Act enabling the Commonwealth to secure certain benefits provided by the National Industrial Recovery Act)

<i>Project</i>	<i>City or Town</i>	<i>Amount</i>
R-1	Lynn-Revere	\$50,000.00
R-16	Revere (North Shore Road)	400.00
R-29-2	Concord By-Pass40
R-33	Fitchburg-Ashby	100.00
R-51	Braintree-Randolph	31,597.22
R-54	Dennis-Yarmouth	2,200.00
Total		\$84,297.62

BOND ISSUE PROJECTS

(Chapter 464 — Acts of 1935)

(An act providing a Public Works program for the purpose of alleviating existing conditions resulting from unemployment.)

Class 1 Projects — None

Class 2 Projects — Construction of Sidewalks

The expenditures during the year in various counties were:—

Barnstable	\$2,693.24	Hampshire	\$40.93
Berkshire	119.64	Middlesex	9,415.12
Bristol	923.31	Norfolk	710.11
Dukes	6.62	Plymouth	1,762.64
Essex	28,582.50	Suffolk	822.04
Hampden	63.58	Worcester	7,437.72
			<hr/>
			\$52,577.45
Engineering			<hr/>
			31,011.89
Total			<hr/>
			\$83,589.34

Details of the foregoing expenditures follow:—

Barnstable County—Harwich, \$2,693.24.

Berkshire County—Adams, \$22.00; Becket, \$4.34; Dalton, \$36.08; Lee, \$4.20; Pittsfield, \$53.02.

Bristol County—Acushnet, \$657.41; Attleboro, \$18.43; Easton, \$90.97; Mansfield, \$28.69; No. Attleborough, \$11.25; Norton, \$14.56; Raynham, \$16.68; Somerset, \$47.44; Swansea, \$23.60; Taunton, \$14.28.

Dukes County—Oak Bluffs, \$6.62.

Essex County—Gloucester, \$28,582.50.

Hampden County—Agawam, \$3.67; East Longmeadow, \$1.11; Palmer, \$58.80.

Hampshire County—Easthampton, \$1.73; Huntington, \$39.20.

Middlesex County—Acton, \$35.79; Arlington, \$49.72; Bedford, \$82.76; Billerica, \$658.17; Burlington, \$26.48; Chelmsford, \$2,517.69; Concord, \$18.85; Framingham, \$142.68; Holliston, \$7.00; Hudson, \$42.80; Lexington, \$444.35; Littleton, \$49.56; Lowell, \$456.98; Marlborough, \$617.35; Medford, \$29.05; Natick, \$32.92; North Reading, \$71.40; Reading, \$117.20; Somerville, \$32.52; Sudbury, \$740.71; Tewksbury, \$270.65; Townsend, \$82.75; Tyngsborough, \$694.32; Waltham, \$14.40; Wayland, \$1,323.47; Weston, \$67.50; Wilmington, \$289.60; Winchester, \$7.84; Woburn, \$490.61.

Norfolk County—Avon, \$10.04; Bellingham, \$36.85; Braintree, \$84.47; Canton, \$79.55; Dedham, \$77.63; Milton, \$12.53; Needham, \$9.11; Norwood, \$14.63; Quincy, \$17.50; Randolph, \$60.; Stoughton, \$160.26; Weymouth, \$147.54.

Plymouth County—Abington, \$439.74; Brockton, \$22.19; Hingham, \$1,172.07; Norwell, \$25.19; Rockland, \$28.89; Wareham, \$6.72; West Bridgewater, \$67.84.

Suffolk County—Boston, \$822.04.

Worcester County—Athol, \$130.98; Auburn, \$1,474.82; Barre, \$53.03; Blackstone, \$1,121.00; Brookfield, \$660.27; Dudley, \$879.55; East Brookfield, \$132.50; Fitchburg, \$1.90; Gardner, \$182.70; Grafton, \$172.55; Leicester, \$91.81; Milford, \$4.39; Millbury, \$73.75; Northborough, \$2.25; Northbridge, \$518.66; Paxton, \$7.50; Southborough, \$81.99; Southbridge, \$3.75; Sterling, \$76.24; Sturbridge, \$528.95; Templeton, \$4.90; Uxbridge, \$15.27; Webster, \$990.87; West Brookfield, \$215.88; Winchendon, \$4.70; Worcester, \$7.51.

Class 3 Projects — Highway projects under the Hayden-Cartwright Act

The expenditures during the year in various counties were:—

Barnstable . . .	\$46,662.35	Middlesex . . .	\$3,369.13
Berkshire . . .	133,204.28	Norfolk . . .	13,301.15
Essex . . .	1,271,181.45	Plymouth . . .	12,777.70
Hampden . . .	484,783.31	Worcester . . .	418,629.09

Total \$2,383,908.46

Details of the foregoing expenditures follow:—

Barnstable County—Bourne, \$46,662.35.

Berkshire County—Pittsfield, \$133,204.28.

Essex County—Gloucester, \$2,391.68; Lynnfield, \$202,830.00; Saugus, \$1,065,959.77.

Hampden County—Holyoke, \$484,783.31.

Middlesex County—Arlington, \$2,508.99; Belmont, \$556.58; Cambridge, \$303.56.

Norfolk County—Cohasset, \$10,018.28; Foxborough, \$469.12; Norwood, \$702.21; Plainville, \$600.77; Sharon, \$287.57; Walpole, \$528.87; Westwood, \$254.42; Wrentham, \$439.91.

Plymouth County—Hingham, \$9,777.61; Scituate, \$3,000.09.

Worcester County—Millbury, \$259,089.54; Sutton, \$159,539.55.

*Class 4 Projects — Grade crossing eliminations, highway projects,
maintenance of State highways*

The expenditures during the year in the various counties were:—

Barnstable	\$9,039.06	Hampshire	\$170,487.28
Berkshire	45,813.00	Middlesex	132,872.35
Bristol	428,805.68	Norfolk	543,272.38
Essex	1,081,262.08	Plymouth	281,196.72
Franklin	855,685.88	Worcester	749,245.18
Hampden	154,699.08		
Total			\$4,452,378.69
Maintenance			65,866.42
Planning survey			10,297.23
			<hr/>
			\$4,528,542.34

Details of the foregoing expenditures follow:—

Barnstable County—Bourne, \$7,408.77; Falmouth, \$1,630.29;
Berkshire County—Cheshire, \$14,187.23; Lanesborough, \$3,885.68;
Pittsfield, \$531.28; Sheffield, \$27,208.81.
Bristol County—Attleboro, \$97,070.58; Dartmouth, \$127,004.71; Mans-
field, \$76,756.45; North Attleborough, \$119,863.93; Westport, \$8,110.01.
Essex County—Gloucester, \$54.60; Lawrence, \$24,184.95; Lynn, \$12,-
218.61; Lynnfield, \$228,906.62; Methuen, \$19.75; Newbury, \$124,331.24;
Peabody, \$486,774.54; Saugus, \$204,763.79; Swampscott, \$7.98.
Franklin County—Deerfield, \$296,230.52; Gill, \$97,411.93; Greenfield,
\$503.00; Montague, \$248,511.11; Sunderland, \$213,029.32.
Hampden County—Holyoke, \$69,991.92; Monson, \$84,707.16.
Hampshire County—Amherst, \$20,838.60; Huntington, \$149,648.68.
Middlesex County—Ayer, \$35,878.66; Cambridge, \$1,147.69; Hopkin-
ton, \$22,464.83; Lowell, \$18,051.53; Waltham, \$55,329.64.
Norfolk County—Braintree, \$68,737.99; Canton, \$53,977.22; Cohasset,
\$62.30; Foxborough, \$97,839.50; Norwood, \$2,213.38; Plainville, \$70,-
482.33; Quincy, \$113,292.03; Sharon, \$114,353.53; Westwood, \$7,229.94;
Weymouth, \$15,084.16.
Plymouth County—Hingham, \$149.41; Marshfield, \$131,099.88; Mid-
dleborough, \$1,100.03; Pembroke, \$130,733.32; West Bridgewater,
\$18,114.08.
Worcester County—Ashburnham, \$97,419.60; Clinton, \$73,825.78;
Grafton, \$128,395.73; Lunenburg, \$32,634.26; Milford, \$57,236.05; Mill-
bury, \$14,028.25; Shrewsbury, \$1,166.06; Sterling, \$5,382.57; West
Boylston, \$2,061.51; Westborough, \$50,901.71; Worcester, \$286,193.66.

Class 5 Projects — Development of Rivers and Harbors

Expenditures during the year 1937 were as follows:

Boston Harbor:

Commonwealth Pier No. 5	\$271,858.53
Dredging	10,803.89
	<hr/>
	\$282,662.42

Outside Boston Harbor:

Lake Anthony, Oak Bluffs	\$1,844.85
Onset Bay, Wareham	264.56
	<hr/>
	2,109.41

Total	<hr/>	\$284,771.83
-------	-------	--------------

RECONSTRUCTION AND REPAIR OF STATE HIGHWAYS DAMAGED BY FLOODS
(Chapter 186, Acts of 1936)

Uncompleted flood repair and betterment projects which were necessi-
tated by the flood of March 1936 were completed early in the year. Most
of this work was completed during the previous year.

The State expenditures for work on State highways which was authorized by special act of the Legislature under Chapter 186 of the Acts of 1936 amounted to *\$3,245.77 for force account projects and *\$5,009.88 for Works Progress Administration repair and betterment projects. The Works Progress Administration has expended a total amount of about \$470,000.00 for this work since these projects were started, of which amount about \$16,000.00 was expended during the fiscal year 1937.

EXPENDITURES FOR CONSTRUCTION AND REPAIR OF STATE HIGHWAYS

DAMAGED BY FLOODS

(Chapter 186, Acts of 1936)

The expenditures during 1937 in various Counties were:—

Berkshire	\$177.90	Hampshire	\$110.42
Essex	696.88	Middlesex	3,321.09
Franklin	9,340.35	Worcester	71,014.58
Hampden	2,737.85		
Total			\$87,399.07

Details of the foregoing expenditures follow:—

Berkshire County—Adams, \$177.90.

Essex County—Methuen, \$153.92; Middleton, \$271.48; No. Andover, \$271.48.

Franklin County—Buckland, \$181.21; Charlemont, \$181.20; Erving, \$4,488.97; Gill, \$4,488.97.

Hampden County—Chester, \$31.30; Palmer, \$2,706.55.

Hampshire County—Huntington \$110.42.

Middlesex County—Ashland, \$153.91; Dracut, \$1,095.08; Tewksbury, \$380.35; Tyngsborough, \$1,284.82; Wayland, \$406.93.

Worcester County—Athol, \$36.65; Fitchburg, \$14,268.68; Gardner, \$192.89; Holden, \$59.07; Millbury, \$583.24; Princeton, \$59.44; Sutton, \$25,735.22; Upton, \$264.00; Westminster, \$11.27; Winchendon, \$29,-804.12.

MAINTENANCE AND REPAIR OF STATE HIGHWAYS

(Section 13, Chapter 81, General Laws)

The expenditures during the year in various counties were:—

Barnstable	\$94,749.88	Hampshire	\$89,203.99
Berkshire	166,734.75	Middlesex	389,084.08
Bristol	156,207.83	Nantucket	297.64
Dukes	13,389.82	Norfolk	368,506.47
Essex	294,103.79	Plymouth	111,868.57
Franklin	79,372.18	Suffolk	75,255.81
Hampden	73,224.83	Worcester	281,329.35
Total			\$2,193,328.99

Details of the foregoing expenditures follow:—

Barnstable—Barnstable, \$27,018.52; Bourne, \$13,741.46; Brewster, \$1,965.35; Chatham, \$2,726.92; Dennis, \$4,038.55; Eastham, \$1,499.95; Falmouth, \$10,894.80; Harwich, \$3,535.75; Mashpee, \$3,864.01; Orleans, \$3,360.35; Provincetown, \$3,129.44; Sandwich, \$5,554.43; Truro, \$5,-944.40; Wellfleet, \$3,002.23; Yarmouth, \$4,473.72.

Berkshire County—Adams, \$1,490.90; Becket, \$11,031.61; Cheshire, \$4,589.17; Clarksburg, \$6,512.91; Dalton, \$8,471.69; Egremont, \$2,621.47; Florida, \$8,530.71; Gt. Barrington, \$13,449.74; Hancock, \$2,227.87; Hinsdale, \$6,709.33; Lanesborough, \$3,858.50; Lee, \$11,107.47; Lenox, \$4,604.12; New Ashford, \$1,434.68; New Marlborough, \$28.49; No. Adams, \$6,394.95; Otis, \$14,442.32; Pittsfield, \$7,294.31; Richmond,

* NOTE: These amounts are for maintenance projects only and do not include any expenditures for bridges, etc.

\$2,356.18; Sandisfield, \$1,645.79; Savoy, \$6,367.17; Sheffield, \$11,485.35; Stockbridge, \$2,808.16; Washington, \$3,271.56; West Stockbridge, \$418.98; Williamstown, \$20,275.38; Windsor, \$3,305.94.

Bristol County—Acushnet, \$3,267.92; Attleboro, \$3,903.09; Berkley, \$1,015.45; Dartmouth, \$6,231.57; Dighton, \$8,794.62; Easton, \$9,647.38; Fairhaven, \$7,126.21; Fall River, \$7.39; Freetown, \$3,612.43; Mansfield, \$3,833.26; Norton, \$8,367.64; No. Attleborough, \$3,304.78; Raynham, \$11,009.32; Rehoboth, \$4,959.88; Seekonk, \$8,534.57; Somerset, \$34,057.77; Swansea, \$17,599.10; Taunton, \$12,597.19; Westport, \$8,288.26.

Dukes County—Chilmark, \$5,135.66; Edgartown, \$2,397.01; Gay Head, \$1,816.67; Oak Bluffs, \$630.61; Tisbury, \$755.27; West Tisbury, \$2,654.60.

Essex County—Amesbury, \$5,566.29; Andover, \$21,915.90; Beverly, \$12,428.52; Danvers, \$7,975.48; Essex, \$3,075.24; Gloucester, \$29,939.30; Groveland, \$2,811.56; Hamilton, \$6,238.96; Haverhill, \$7,074.53; Ipswich, \$12,623.16; Lawrence, \$2,798.21; Lynn, \$5,860.20; Lynnfield, \$2,860.67; Merrimac, \$2,602.40; Methuen, \$17,072.52; Middleton, \$22,205.06; Newbury, \$11,130.75; Newburyport, \$7,740.64; No. Andover, \$23,310.52; Peabody, \$5,794.47; Rockport, \$1,087.17; Rowley, \$7,847.07; Salem, \$19,130.61; Salisbury, \$13,042.51; Saugus, \$15,897.89; Swampscott, \$10,603.67; Topsfield, \$7,213; Wenham, \$3,239.92; West Newbury, \$5,017.57.

Franklin County—Ashfield, \$3,177.28; Bernardston, \$3,207.80; Buckland, \$1,897.35; Charlemont, \$7,989.95; Colrain, \$1,955.11; Conway, \$1,195.67; Deerfield, \$6,486.05; Erving, \$5,426.80; Gill, \$1,798.84; Greenfield, \$9,238.08; Montague, \$5,062.97; New Salem, \$2,730.76; Northfield, \$8,742.98; Orange, \$3,027.45; Shelburne, \$5,848.20; Shutesbury, \$2,615.32; Sunderland, \$4,773.95; Whately, \$4,377.62.

Hampden County—Agawam, \$9,590.09; Blandford, \$2,762.52; Brimfield, \$6,116.51; Chester, \$8,020.59; Chicopee, \$8,787.42; East Longmeadow, \$1,428.23; Hampden, \$213.49; Holland, \$116.60; Holyoke, \$854.74; Monson, \$2,221.80; Palmer, \$7,373.82; Russell, \$5,324.01; Southwick, \$3,159.77; Tolland, \$157.35; Wales, \$4,998.31; W. Springfield, \$2,871.15; Westfield, \$5,022.14; Wilbraham, \$4,206.30.

Hampshire County—Amherst, \$5,741.31; Belchertown, \$5,969.54; Cummington, \$7,393.03; Easthampton, \$4,645.39; Goshen, \$6,599.84; Granby, \$4,686.05; Hadley, \$4,501.93; Hatfield, \$2,069.28; Huntington, \$9,354.01; Enfield, \$35.88; Northampton, \$7,808.24; Pelham, \$1,678.31; Southampton, \$7,032.18; So. Hadley, \$8,446.55; Ware, \$8,304.67; Williamsburg, \$3,701.33; Worthington, \$1,236.45.

Middlesex County—Acton, \$7,752.69; Arlington, \$16,279.96; Ashby, \$8,794.26; Ashland, \$4,980.17; Ayer, \$2,623.47; Bedford, \$1,408.25; Belmont, \$3,620.90; Billerica, \$10,188.15; Boxborough, \$4,040.68; Burlington, \$3,627.88; Cambridge, \$3,350.07; Carlisle, \$8.79; Chelmsford, \$17,561.69; Concord, \$14,648.63; Dracut, \$5,273.45; Framingham, \$24,198.65; Groton, \$1,981.39; Holliston, \$6,052.84; Hudson, \$6,631.82; Lexington, \$24,233.59; Lincoln, \$11,301.31; Littleton, \$8,636.28; Lowell, \$3,944.68; Malden, \$81.44; Marlborough, \$10,898.63; Medford, \$4,949.47; Melrose, \$907.02; Natick, \$16,219.32; Newton, \$19,191.06; No. Reading, \$6,453.68; Pepperell, \$1,417.83; Reading, \$18,829.41; Shirley, \$3,370.92; Somerville, \$4,430.96; Stoneham, \$3,610.57; Sudbury, \$10,504.71; Tewksbury, \$15,470.54; Townsend, \$7,718.68; Tyngsborough, \$11,764.54; Waltham, \$3,031.62; Watertown, \$1,881.04; Wayland, \$17,320.47; Westford, \$6,119.45; Weston, \$10,669.19; Wilmington, \$6,281.17; Winchester, \$2,520.83; Woburn, \$14,301.93.

Nantucket County—Nantucket, \$297.64.

Norfolk County—Avon, \$3,126.15; Bellingham, \$3,401.83; Braintree, \$28,065.01; Brookline, \$12,292.43; Canton, \$39,691.31; Cohasset, \$2,835.62; Dedham, \$29,693.15; Dover, \$2,902.19; Foxborough, \$8,929.89; Franklin, \$1,584.84; Holbrook, \$5,970.11; Milton, \$30,008.12; Needham, \$13,262.53; Norfolk, \$291.45; Norwood, \$24,228.78; Plainville, \$4,181.96;

Quincy, \$11,340.63; Randolph, \$12,232.99; Sharon, \$4,867.28; Stoughton, \$11,734.88; Walpole, \$18,734.67; Wellesley, \$22,618.89; Westwood, \$21,629.99; Weymouth, \$42,086.87; Wrentham, \$12,794.90.

Plymouth County—Abington \$8,162.84; Bridgewater, \$3,416.31; Brockton, \$6,928.78; Duxbury, \$3,531.78; E. Bridgewater, \$2,826.34; Hanover, \$2,898.69; Hingham, \$8,735.06; Hull, \$543.68; Kingston, \$3,752.11; Lakeville, \$7,895.99; Marion, \$2,599.97; Marshfield, \$5,562.17; Mattapoisett, \$3,812.71; Middleborough, \$10,105.17; Norwell, \$994.42; Pembroke, \$1,763.55; Plymouth, \$13,220.60; Plympton, \$23.21; Rochester, \$1,817.48; Rockland, \$4,439.52; Scituate, \$5,144.11; Wareham, \$8,204.81; W. Bridgewater, \$2,034.99; Whitman, \$3,454.28.

Suffolk County—Boston, \$22,941.65; Chelsea, \$1,775.02; Revere, \$50,539.14.

Worcester County—Ashburnham, \$4,011.51; Athol, \$3,791.26; Auburn, \$10,276.64; Barre, \$6,028.08; Blackstone, \$6,608.44; Boylston, \$75.53; Brookfield, \$2,169.95; Charlton, \$6,070.15; Douglas, \$1,044.86; Dudley, \$4,428.83; E. Brookfield, \$5,570.28; Fitchburg, \$1,343.83; Gardner, \$4,934.43; Grafton, \$8,864.29; Hardwick, \$326.93; Harvard, \$3,301.53; Holden, \$6,514.56; Hopedale, \$1,566.17; Hubbardston, \$14.06; Lancaster, \$3,429.36; Leicester, \$3,070.44; Leominster, \$1,279.17; Lunenburg, \$7,203.47; Mendon, \$1,236.64; Milford, \$4,014.73; Millbury, \$17,795.40; Millville, \$591.83; New Braintree, \$299.75; No. Brookfield, \$3,859.08; Northborough, \$5,447.00; Northbridge, \$4,891.56; Oakham, \$10,502.54; Oxford, \$3,749.70; Paxton, \$2,996.28; Petersham, \$6,768.15; Phillipston, \$1,178.74; Princeton, \$2,411.18; Royalston, \$3.16; Rutland, \$18,748.94; Shrewsbury, \$9,613.10; Southboro, \$6,618.02; Southbridge, \$1,466.95; Spencer, \$4,034.91; Sterling, \$12,185.92; Sturbridge, \$8,566.62; Sutton, \$13,326.26; Templeton, \$5,140.44; Upton, \$2,228.51; Uxbridge, \$2,547.57; Warren, \$5,209.42; Webster, \$3,682.97; West Boylston, \$3,494.43; West Brookfield, \$5,329.07; Westborough, \$8,074.33; Westminster, \$4,953.55; Winchendon, \$3,152.75; Worcester, \$6,296.08.

Miscellaneous expenditures for maintenance of highways are as follows:—

Snow Removal

Equipment and Repairs

Repairs and parts	\$102,826.38
Labor	49,316.26
New equipment	52,478.25

\$204,620.89

Plowing and Sanding

Materials (sand, gas, oil, calcium chloride)	183,324.89
Labor	218,428.02
Truck hire	92,649.12

494,402.03

\$699,022.92

Traffic

Route markers	15,916.84
Direction signs	14,582.63
Warning signs	32,386.00
Regulatory signs	6,947.58
Control signals	45,702.53
Surface markings	26,729.89
Curb markings	190.87
Traffic survey	6,503.66
Salaries	44,031.49
Chap. 357	358.58
Traffic census	5,534.45
Art project	56.73

P.D. 54		51
W. P. A.	17.40	
Tercentenary signs	284.96	
		199,243.61

Bridges

Somerset Bridge	15,550.42	
Newburyport Bridge	7,399.23	
New Bedford-Fairhaven Bridge	20,182.01	
Quincy-Weymouth Bridge	18,291.86	
		61,423.52
Geodetic survey		3,124.45
Detour bulletins		1,827.87
Inspection of bituminous concrete pavement (Technical services)		1,690.38
Tractor repairs		7,891.03

Total miscellaneous expenditures	\$974,223.78
----------------------------------	--------------

Summary of Maintenance Expenditures

Maintenance and repair of State Highways	\$2,193,328.99
Miscellaneous expenditures	974,223.78

Total	\$3,167,552.77
-------	----------------

ORDINARY AND SPECIAL MAINTENANCE

The work of repairing road surfaces, maintaining shoulders and slopes, cleaning drainage ditches and conduits, and miscellaneous work on the right-of-way including repairing fences, trimming trees, clearing roadsides and improvement of the appearance of State highways was performed under the ordinary maintenance allotment. Cost of this work compares favorably with that of other years.

Betterment work by maintenance forces was restricted this year on account of limited funds, so that it was possible to do only a few of the more essential projects. The major portion of funds spent for betterments was for widenings on roads too narrow to carry the traffic, and at locations where a serious condition was caused by the washing out of gravel between the edge of the old surface and the recently installed sidewalk curbing. Resurfacing was done where the old surface had become warped and uneven due to settlement in swampy areas. The total length widened was 1.6 miles and the length resurfaced was 0.5 miles.

Modern guard rail was installed on 7.7 miles of State highway, consisting mostly of replacing old wooden guard rail.

Other betterments included 0.3 miles of shoulder hardenings, improvement of drainage by the installation of culverts, ditches, manholes, catch-basins, etc. and miscellaneous projects.

REMOVAL OF SNOW AND ICE FROM STATE HIGHWAYS AND CERTAIN TOWN ROADS

The program of snow and ice removal was continued under authority of Section 19, Chapter 81, General Laws (Ter. Ed.), amended by Chapter 187 of the Acts of 1933, governing the removal of snow and ice on State highways, and under Chapter 84, Section 11 of the General Laws (Ter. Ed.), governing State cooperation on the plowing of town highways.

This program included a total of 1967.21 miles, of which 1763.42 miles were State highways and 203.79 miles were town roads plowed on a cooperative basis.

Much of the equipment used is owned and operated by the Department, supplemented by hired trucks and equipment owned by cities and towns.

The amount of snow during the winter was less than average, which reduced the cost of plowing, but much sanding was required due to ice storms and freezing rain. Sanding was required on 54 days and frequently it was necessary to keep men and equipment working 24 hours.

An amount of \$699,022.92 was expended by the Department during the fiscal year for plowing and sanding, erection of snow fence, cleaning of waterways, maintenance and repair of equipment, and the purchase of materials, such as sand, calcium chloride and sodium chloride.

REPAIRING DEPARTMENT EQUIPMENT

The following contracts were entered into for repairing equipment.

Boston—September 29, 1937, contract made with J. J. Callahan of Boston, for repairing Department snow removal units and machinery. The proposal amounted to \$68,750. Work about one-fifth completed. Expenditure during 1937, \$13,278.04.

Boston—November 30, 1937, contract made with J. E. Black of Dedham, for repairing Department tractors. The proposal amounted to \$8,590. There were no expenditures during 1937.

BRIDGE MAINTENANCE AND OPERATION

Draw Bridge over the Merrimac River Between Newburyport and Salisbury

This bridge was placed in charge of the Massachusetts Highway Commission and made a State highway by the provisions of Chapter 716, Acts of 1912, which also provided that the expense of keeping the bridge in good repair for travel, of operating the draw and of maintaining the structure shall be paid by the Commonwealth.

The number of draw openings during the year ending November 30, 1937, was 201. In 1936 the number of such openings was 168; in 1935 the number was 178; in 1934 the number was 110; in 1933 the number was 153; and in 1932 the number was 220.

The total expenditure during the year was \$7,399.23.

The total expenditure from 1912 to November 30, 1937, inclusive, was \$211,621.44.

Draw Bridge over Taunton River Between Fall River and Somerset

This bridge was placed in charge of the Massachusetts Highway Commission and made a State highway by the provisions of Chapter 717, Acts of 1912, which also provided that the expense of keeping the bridge in good repair for travel, and for operating the draw and maintaining the structure, shall be paid by the Commonwealth.

The number of draw openings during the year ending November 30, 1937, was 1,385. In 1936 the number of such openings was 1,591; in 1935 the number was 1,492; in 1934 the number was 2,118; in 1933 the number was 1,602; and in 1932 the number was 1,662.

The total expenditure during the year was \$15,550.42.

The total expenditure from 1912 to November 30, 1937, inclusive, was \$436,202.49.

Draw Bridge over Acushnet River between City of New Bedford and the Town of Fairhaven

This bridge, which was placed in charge of the Department of Public Works and made a State highway by the provisions of Chapter 406, Acts of 1930, which also provided that the expense of keeping the bridge in good repair for travel, operating the draw and of maintaining the structure, shall be paid by the Commonwealth, was taken over by the Department on June 27, 1930.

The number of draw openings while in charge of the Department beginning June 27, 1930, and ending November 30, 1932, was 1,069. In 1933, the number of such openings was 1,867; in 1934 the number was 1,434; in 1935 the number was 1,318; in 1936 the number was 1,434; in 1935 the number was 1,318; in 1936 the number was 1,381; and in 1937 the number was 1,064.

The total expenditure during the year was \$20,182.01.

The total expenditure while in charge of the Department has been \$159,612.30.

Draw Bridge over Weymouth Fore River between the City of Quincy and the Town of Weymouth

The jurisdiction of the Department of Public Works over this bridge is provided for by Chapter 348, Acts of 1933.

The new drawbridge was put in service May 23, 1936. From May 23, 1936, to November 30, 1936, the number of openings was 479.

The total expenditure during the year was \$18,291.86.

The total expenditure since construction for the maintenance and operation of both the temporary and new bridges was \$31,779.26.

ROADSIDE MAINTENANCE AND DEVELOPMENT

Roadside maintenance has been one of the duties of this Department for many years. However, its scope has broadened so that it now is a part of both construction and maintenance of highways.

During the year supervision and inspection was given to work totaling approximately \$1,800,000 in value in addition to the planting of 803 trees and 2444 shrubs and vines.

As in the past the removal and trimming of trees, shrubs and undesirable growth has been carried on under the supervision of competent experienced employees. Much trimming has been done by public utilities companies for new and old pole lines. Inspectors have been employed to inspect this work, and prevent too extensive cutting of trees.

There were during the year 1937, 150 individual W.P.A. Roadside Beautification projects in operation, mostly in the eastern part of the State. Each was carried on under the direction of a department engineer. Particularly, attention was given to work along the Concord Turnpike, the Providence Turnpike, and the Worcester-Fitchburg road. Under the W.P.A. two projects for prevention of soil erosion were completed. The first project on Route 20 in Palmer was completed in June. This slope had caused considerable trouble when masses of earth and rock slipped down the slope, sometimes covering the road. The condition was corrected at a cost of about \$5,000.

The other slope on Route 1 in Wrentham was completed in September. This slope also caused difficulty each spring, but the trouble was corrected by lowering the ground water level and sodding the slope surface. Work was completed at a cost of \$2,000 to the Department.

By use of Federal money secured through the Hayden-Cartwright Act and WPGH funds, plans and estimates were prepared for nine roadside improvement projects. The following table shows the town, route, and cost of each:

Town	Route	Cost
Middleborough	28	\$ 924.30
Cheshire-Lanesborough	8	19,885.50
Sterling	12	5,668.34
Worcester-West Boylston	12	3,289.91
Foxborough, Norwood, Sharon, Walpole, Wrentham, Plainville, Westwood, Dedham	1	3,688.00
Hingham-Cohasset-Scituate	3-A	17,978.55
Gloucester	121	2,285.01
Arlington-Belmont-Cambridge	2	3,983.68
Hingham	3	6,520.34
Total		<hr/> \$64,223.63

ROADSIDE IMPROVEMENT

The Department entered into the following contracts for roadside improvement:—

Arlington-Belmont-Cambridge

Dec. 23, 1936, contract made with William P. Herlihy, of Cambridge, for furnishing and planting trees, shrubs, vines and plants complete with necessary fertilizer, tree stakes where necessary along Automobile Route 2, beginning in Cambridge at the traffic circle on the Alewife Brook Parkway and continuing through the towns of Arlington and Belmont (including the grade separation at Pleasant Street) to the Lexington town line. The proposal amounted to \$3,983.68. Work completed May 25, 1937. Expenditure during 1937, \$3,369.13.

Gloucester

March 24, 1937, contract made with Louis A. Reardon, of North Abington, for furnishing and planting trees, shrubs, vines and plants, complete with necessary fertilizer and tree stakes where necessary, at designated locations along Automobile Route 121, beginning at the Essex Town Line and extending to about the intersection with Bond Street. The proposal amounted \$2,285.01. Work completed May 15, 1937. Expenditure during 1937, \$2,285.01.

Middleborough

March 24, 1937, contract made with Littlefield Wyman Nurseries, of North Abington, for furnishing and planting trees, shrubs and plants complete with necessary fertilizer and tree stakes where necessary, at designated locations along Automobile Route 28 beginning at the Bridgewater Town Line and continuing along Route 28, including the traffic circle at the intersection with Route 101, to the Rochester Town Line. The proposal amounted to \$924.30. Work completed May 18, 1937. Expenditure during 1937, \$924.30.

Hingham-Cohasset-Scituate

May 10, 1937, contract made with Tree-Land Inc., of Cambridge, for furnishing and planting trees, shrubs and vines, complete with necessary fertilizer and tree stakes where necessary, at designated locations along Automobile Route 3-A, beginning at the traffic circle at the junction of Summer Street and extending thence through Hingham, Cohasset and Scituate for about 8.9 miles to the junction with the old State Highway. The proposal amounted to \$17,978.55. Work about five-sixths completed. Expenditure during 1937, \$14,920.00.

Dedham-Foxborough-Norwood,—etc.

May 19, 1937, contract made with Louis A. Byrne Nurseries, Inc., of Dennisport, for furnishing and planting trees, complete with necessary fertilizer and tree stakes where necessary, at designated locations along Automobile Route 1, beginning at the North Attleborough Town Line and extending thence along Route 1 through the towns of Plainville, Wrentham, Foxborough, Sharon, Walpole, Norwood, Westwood and for about 5,400 feet into Dedham. The proposal amounted to \$3,688.00. Work completed Nov. 10, 1937. Expenditure during 1937, \$3,134.80.

Cheshire-Lanesborough

June 8, 1937, contract made with Louis A. Reardon, of North Abington, for furnishing and planting trees, shrubs and vines, complete with necessary fertilizer and tree stakes where necessary, at designated locations along Automobile Route 8, beginning at the Pittsfield City Line and extending thence along Route 8 through the towns of Lanesborough and Cheshire to the Adams Town Line. The proposal amounted to \$19,885.50. Work about nine-tenths completed. Expenditure during 1937, \$17,044.34.

Hingham

June 30, 1937, contract made with Martin J. Kelly, of Boston, for rough grading, rounding and sodding highway slopes and doing miscellaneous incidental work, at designated locations along Automobile Route 3, beginning at about the Weymouth Town Line and extending thence along Route 3 to about the Norwell Town Line. The proposal amounted to \$6,520.34. Work completed August 21, 1937. Expenditure during 1937, \$7,084.88.

Worcester-W. Boylston

July 21, 1937, contract made with William P. Herlihy, of Cambridge, for rough grading, rounding and sodding highway slopes and doing miscellaneous work, at designated locations along Automobile Route 12, beginning at about the trestle crossing over the Boston & Maine Railroad at Malden Street in Worcester and extending thence along Route 12 in Worcester and in West Boylston to about the intersection of Sterling Road with Lancaster Street. The proposal amounted to \$3,289.91. Work completed September 18, 1937. Expenditure during 1937, \$3,183.95.

Sterling

Aug. 18, 1937, contract made with Martin J. Kelly, of Boston, for rough grading, rounding and sodding highway slopes and doing miscellaneous incidental work, at designated locations along Automobile Route 12, beginning at about the intersection of Route 12 (Main Street) with Princeton Road and extending thence along Automobile Route 12 in Sterling to about at Pratts Junction. The proposal amounted to \$5,668.34. Work completed Oct. 15, 1937. Expenditure during 1937, \$5,075.77.

SIDEWALKS ALONG STATE HIGHWAYS

State Bond Issue and Federal W.P.A. Allotments

Sidewalk construction continued during the fiscal year 1937 with funds from the Bond Issue of 1935, Chapter 464, Section 2, and an allotment from the Works Progress Administration. This work consisted of placing surfacing on graded areas, completing installation of curbing, drainage, and guard rail, and fine grading, loaming and seeding slopes and grass plots.

A total of 207 projects were in operation during the fiscal year and 276 miles of sidewalks were completed. An amount of \$83,589.34 was expended from the Bond Issue and \$1,588,855.54 was expended from Federal funds of the Works Progress Administration, a total of \$1,672,444.88.

The number of pedestrian accidents on state highways where sidewalks have been constructed has been materially reduced. A survey discloses that there was a reduction of 30% in both injuries and fatalities in 1937 as compared to 1934, which marked the beginning of the sidewalk construction program.

FARM TO MARKET PROJECTS

Improvement of "Farm to Market" roads, which was started by the Department of Public Works in the fall of 1935, in co-operation with the cities and towns and the Works Progress Administration, continued during the fiscal year 1937, although there were fewer projects operating under sponsorship of the Department and an increase in responsibility on the cities and towns.

Late in the Spring of 1937, the Works Progress Administration requested larger contributions from local authorities making it necessary to revise and resubmit the projects.

The Department agreed to act as co-sponsor pending approval of these revised projects in order to eliminate the possibility of protracted curtailments. This agreement allowed the projects to continue operation, with expenditures charged to statewide allotments granted for projects sponsored by the Department.

During the past year there were 332 miles of "Farm to Market" roads improved, an expenditure of \$2,000,228.80 divided as follows: Works Progress Administration \$1,563,332.12; Cities and Towns \$420,066.47; State \$16,830.21. The majority of these improvements consisted of correcting alignment, widening and providing better visibility at curves and intersections, installation of drainage, excavation of unsuitable material and replacement with a gravel sub-base and wearing surface.

This work has materially reduced welfare costs in many towns and should be considered of substantial value in addition to improvement of roads. The towns realized this and were therefore willing to make larger contributions for equipment and material when so requested by the Works Progress Administration.

WIDENING AND RESURFACING PROJECTS ON STATE HIGHWAYS

Projects started the past year under the Widening and Resurfacing Program of the Works Progress Administration continued until the projects were completed or to a point where they could be safely suspended. Due to a curtailment of the Works Progress Administration funds these projects were then closed.

In September 1936, Widening and Resurfacing Project Proposals, amounting to \$10,512,870. were submitted to the Works Progress Administration for approval on the basis of 100% Federal contribution, the only state expenditures being for engineering and supervision. Approval was received with the restriction that 50% of the total asked for on each project could be spent. Many of these projects were not permitted to start because of completed labor quotas in districts where they were located.

Projects were started under approved allotments, totalling \$2,883,303, in the fall of 1936 and continued until winter weather. Because of reduced quotas in men and further curtailment of Federal funds, few projects were started again in the spring and these were all closed by June 30, 1937.

Total funds expended by the Works Progress Administration for this work amounted to \$196,650, of which \$161,570 was spent the current year.

Some of the projects started under this program were completed later with Ordinary Maintenance funds and others will be considered for completion at an early date, probably as Reconstruction projects.

Reconstruction of 4.0 miles of road was started and partly completed under this program. Widening projects were completed on 6.7 miles of highways. 1822 cubic yards of rip-rap was placed along the banks of the Merrimack River in Dracut.

MATERIALS TESTING LABORATORY

The Materials Testing Laboratory occupies the east end of the basement in the Public Works Department Building, Boston. Established in 1921, it has grown in personnel and equipment to the present up to date plant for testing all materials proposed for use in construction and maintenance of highways and bridges.

The Laboratory is equipped with standard apparatus for testing structural materials. During the past year, over seven thousand analyses were made of one hundred and twelve different types of highway construction and maintenance materials. Many analyses were made in connection with some fifteen research and special investigation projects conducted by the Laboratory.

Laboratory procedure is supplemented by work of a field organization under direction of the several District Highway Engineers. In each of the seven highway districts, is a Materials Engineer equipped with a portable field laboratory. The Materials Engineer works in cooperation with the Laboratory sampling and testing materials, and in his field laboratory, he tests and keeps a check on sand and stone aggregate used in cement concrete mixes for masonry and road surfaces.

The Laboratory takes part in cooperative research performed by other materials testing laboratories. In this way, results of work of all participating laboratories is available.

TRAFFIC

Traffic Signs, Lights, Markings, Signal Systems and Regulations

Under the provisions of chapters 85 and 89, General Laws, as amended, certain duties are placed upon the Department in order to secure uniformity in highway traffic signs, signals, markings, devices and regulations.

The Department is required to erect on all numbered routes such signs, etc., as it may deem necessary for promoting the public safety and convenience.

Traffic Signs, Signals, etc., Erected by Department

Accordingly, the Department has, during the past year, erected those signs, etc.

	1937
Traffic signals	4
Traffic beacons	14
Traffic signs	9,346
Traffic markings (in miles)	783

The erection or designation of the foregoing was based upon accident analyses, traffic counts and speed checks. It is only through a close study of these that the need for warning or control can be accurately gauged.

Directional Signs and Route Markers Erected by Department

Still other signs have been erected under the provisions of the first-named chapter. These are known as directional signs. Posted at or within intersections, these serve to direct the motorist to adjacent, contiguous and even remote towns.

Travel has been further facilitated by the opening of new routes and the marking of these with button signs which notify the motorist upon which route he is traveling.

The fabricating and painting of these signs are done at the Department's traffic shop.

Traffic Control Signals, Signs and Regulations Approved by Department

The provisions of the several chapters already referred to also make the validity of regulations made, or signs, etc., erected by cities and towns upon ways within their control, dependent upon the written approval of the Department of Public Works.

As a means of aiding the municipalities in this respect, the Department assigns its engineers to make studies, and to give advice to those cities and towns which desire to control vehicular traffic through the medium of regulations and signs.

This resulted during the past year in the Department's approving the following traffic control features:

	1937
Traffic signals	50
Traffic beacons	14
Traffic Sign Permits	50
Traffic Marking Permits	13
Traffic rules and regulations	181
Isolated stop signs	390
Safety zones	11

FEDERAL AID IN CONSTRUCTING HIGHWAYS

Statements as to the Acts of Congress and of the Massachusetts Legislature in respect to cooperation between the United States and the State of Massachusetts in the construction of highways, including the Federal Highway Act, approved Nov. 9, 1921, may be found in the annual reports of the Department of Public Works for the years 1920 to date.

A detailed statement of the Federal Aid Allotments and projects for Massachusetts appears in the Department Report for the fiscal year 1933. Additions and alterations for the fiscal years 1934, 1935, 1936 and 1937 and a summary of the allotments appears as follows:

Regular Federal Aid from June 30, 1916 to June 30, 1933	\$18,523,440
1931 Federal Emergency Advance Funds	1,141,460
Federal Emergency Relief and Construction Act of 1932	1,716,612
1934 National Recovery Funds (Appropriated under the National Industrial Recovery Act, approved June 16, 1933)	6,597,100
1935 National Recovery Funds (Appropriated under the Hayden-Cartwright Act approved June 18, 1934)	3,350,474
1936 Regular Federal Aid Funds (Authorized under the Hayden-Cartwright Act Approved June 18, 1934)	1,741,877
1937 Regular Federal Aid Funds (Authorized under the Hayden-Cartwright Act Approved June 18, 1934)	1,743,487
Works Program Funds—Highways	3,262,885
Works Program Funds—Grade Crossings (Appropriated under the Emergency Relief Appropriation Act of 1935)	4,210,833
WPA Funds Used in Conjunction with Works Program Funds (Appropriated under the Emergency Relief Appropriation Act of 1935—Transferred from WPA to the Bureau of Public Roads for Federal Aid Purposes)	958,133
Funds for Flood Replacement Projects (Authorized under the Emergency Relief Appropriation Act of 1936, ap- proved June 22, 1936)	1,533,850
1938 Regular Federal Aid Funds (Authorized under the Hayden-Cartwright Act approved June 16, 1936)	
Regular Federal Aid	\$1,769,936
Secondary or Feeder Roads	353,987
Grade Crossings	1,047,500
	<hr/>
	3,171,423

Total Federal Funds Authorized to Nov. 30, 1937 . . \$47,951,574

There were 64 projects prepared in addition to those shown on the Annual Report of the Department of Public Works for 1936. The length of Federal Aid highway and bridge projects in this State from the commencement of work of this type to November 30, 1937 inclusive is 1,137,389 miles, an increase of 10.018 miles over 1936.

In addition to these highway and bridge projects there were 21 road-side improvement projects under 8 contracts totaling about 61.846 miles. These were all on old Federal Aid projects.

The total length of Federal Aid projects (1,137.389 miles) divided according to the various counties is as follows:

Barnstable	108.387	Hampshire	56.148
Berkshire	136.036	Middlesex	109.442
Bristol	92.254	Norfolk	92.997
Dukes	3.117	Plymouth	114.464
Essex	97.786	Suffolk	5.839
Franklin	57.596	Worcester	191.355
Hampden	71.968		
Total			<hr/>
			1,137.389
			Miles

STATEMENT OF FEDERAL AID FUNDS

1931 Federal Emergency Advance Funds	\$1,141,460.00
(See Department Report for 1933)	
1932 Federal Emergency Relief Funds	1,716,612.00
(See Department Report for 1935)	
1934 National Recovery Funds	6,597,100.00

Allotted as follows:

Amesbury	NRH 243-A	\$21,836.51
Arlington-Belmont-Cambridge	NRM 242-A	617,355.22
Ashby-Townsend	NRH 188-F	117,531.69
Auburn	NRM 130-B	103,571.29
Boston	NRM 244-A	37,926.57
Brookline-Newton	NRM 235-B	210,478.94
Burlington	NRH 78	22,671.06
Charlton	NRH 184-A	34,775.70
Charlton-Oxford	NRH 184-C	34,347.72
Chester	NRH 138-B	46,792.64
Conway-Deerfield	NRS 246	234,689.75
Easton	NRH 89-A	38,908.87
Easton	NRH 89-C	40,017.36
East Boston-Revere	NRM 241-A	698,939.51
Fairhaven	NRH 143-B	64,430.41
Huntington	NRS 245-A	141,633.69
Lanesborough	NRH 173-C	9,983.98
Mattapoisett	NRH 189-E	80,642.31
Newbury	NRH 199-C	46,975.44
Newburyport	NRM 126-A	547,399.77
North Adams	NRM 248-A	176,360.52
Otis	NRS 247	106,186.86
Pittsfield	NRM 173-D	30,896.49
Quincy-Weymouth	NRM 170-C	1,976,400.49
Revere	NRM 241-B	248,063.57
Scituate-Marshfield	NRH 174-B	146,402.02
Springfield	NRM 131-C	207,487.36
Sterling-West Boylston	NRH 172-B	124,037.32
Stoughton	NRH 56	117,194.77
Templeton	NRH 194-B	41,226.36
Wareham	NRH 189-F	32,224.03
West Boylston	NRH 240-B	7,263.08
Winchester	NRH 57(2)	12,746.42
Winchester	NRH 57(B)	18,170.72
Woburn	NRM 57(1)	14,140.19
Worcester	NRM 249	102,389.39

Total for Roadway and Bridge Projects . . . 6,512,098.02

Landscape Projects Financed from these Funds

(See 1935 Report)

Amount Allotted	\$39,752.76
Amount Reverted	1,073.14

Net Amount . . . 38,679.62

Total Amount Under Agreement . . . \$6,550,777.64

Total Allotment . . . 6,597,100.00

Agreement Pending . . . \$46,322.36

The above projects are all completed and final payment received except Quincy-Weymouth NRM 170-C. There is a balance still due on this project, which will be received when the final voucher is submitted and approved.

The following projects also include traffic signals:

NRM 126-A	Newburyport
NRM 130-B	Auburn
NRH 172-B	Sterling-West Boylston

NRM 241-B Revere

NRM 242-A Arlington-Belmont-Cambridge

1935 National Recovery Funds:

Allotted as follows:

Andover	NRS 255	\$189,449.00
Athol-Orange*	NRS 254	156,859.56
Billerica-Chelmsford	NRS 253	107,146.04
Blandford	NRS 252	53,368.79
Boston-Brookline*	NRM 235-E	492,880.00
Boston-Dedham	NRM 251-B	128,471.56
Bourne	NRH 176-B	77,811.54
Bourne-Wareham*	NRH 125-C	146,040.32
Cheshire	NRH 173-E	149,590.82
Dracut-Methuen*	NRH 250	285,253.51
Dedham-Boston	NRH 251-A	229,244.00
Framingham†	NRH 211-B	1,741.00
Framingham†	NRH 211-F	2,678.64
Haverhill	NRM 69-B	42,203.56
Lenox†	NRH 114	7,056.32
Lenox†	NRH 147-A	673.44
Lowell	NRM 91	59,022.86
Millbury*	NRH 256-A	403,122.92
Montague*	NRS 257	313,699.92
Natick†	NRH 211-C	5,483.00
Northborough†	NRH 211-A	11,317.53
Otis-Blandford	NRS 247-B	67,036.95
Pittsfield*	NRM 21-C	30,035.83
Rutland	NRH 134-E	19,155.95
Sheffield†	NRH 98	330.72
Sheffield†	NRH 137-C	2,110.40
Southwick	NRH 73	133,561.79
Wayland	NRH 124-D	12,400.00
Westfield	NRM 155-C	54,312.55

Total Under Agreement	\$3,182,028.52
Amount Available	3,350,474.00

Agreement Pending	\$168,445.48
-------------------	--------------

The following projects also include sidewalks:

NRM 91	Lowell
NRH 250	Dracut-Methuen
NRH 251-A	Dedham
NRM 251-B	Boston
NRS 255	Andover

The following projects also include traffic signals:

NRH 256-A	Millbury
NRH 251-A	Dedham
NRM 251-B	Boston

Emergency Relief Appropriation Act of 1935

Works Program—Highways

Allotted as follows:

Attleboro-North Attle-		
borough-Plainville	WPSO 290	\$252,640.00
Cheshire* †	WPH 173-A	7,300.00
Cheshire*	WPH 173-E	9,780.00

* Balance due on these projects, to be received when final voucher is approved. All others are finished and final payment has been received.

† Landscape Projects.

Clinton	WPSO 291	86,170.00
Dartmouth-Westport	WPH 152-D	130,110.00
Deerfield-Sunderland†	WPH R 308-A	**389,770.00
Deerfield-Sunderland†	WPH R 308-B	**47,070.00
Gill-Montague	WPSO R 307	**521,293.00
Grafton-Shrewsbury	WPSO 288-A	8,670.00
Greenfield	WPH 222-B	67,272.64
Holyoke	WPMH 284-A	163,530.00
Lanesboro* †	WPH 173-B	3,870.00
Lanesboro* †	WPH 173-C	920.00
Lynn	WPMS 267	63,650.00
Lynnfield	WPH 272-A	271,940.00
Mansfield	WPSO 285-B	3,710.00
Mansfield	WPSO 278-A	4,710.00
Marshfield-Pembroke	WPSO 292	312,580.00
Middleboro*	WPH 149-A	720.00
Middleboro*	WPH 207-A	288.00
Peabody	WPMH 272-B	717,080.00
Sterling*	WPH 172-C	6,230.00
West Boylston*	WPH 240-A	910.00
West Boylston*	WPH 240-B	700.00
West Boylston*	WPH 240-C	460.00
West Bridgewater	WPSO 304	85,860.00
Worcester	WPMH 293-A	27,520.00
Worcester*	WPMH 240-A	639.00
Worcester*	WPMH 240-D	900.00

Total under Agreement	\$3,186,292.64
-----------------------	----------------

Amount Available	3,262,885.00
------------------	--------------

Agreement Pending	\$76,592.36
-------------------	-------------

There are balances due on all of the above projects. These are payable when the final vouchers are submitted and approved.

* Landscape Projects.

** 50% of Cost. See page ? for Remainder.

† These projects still under construction. All others completed.

Emergency Relief Appropriation Act of 1935

Works Program—Grade Crossings

Allotted as follows:

Amherst	WPGM 280-A	\$ 73,600.00
Ashburnham	WPGH 164-C	116,380.00
Attleboro	WPGM 274-A	92,560.00
Ayer	WPGS 263	117,333.04
Braintree	WPGS 287	9,541.00
Braintree*	WPGS 265	197,690.00
Canton-Norwood-		
Westwood	WPGS 269	106,800.00
Foxborough*	WPGS 270	131,510.00
Foxborough-Mansfield	WPGS 271	22,791.76
Grafton-Shrewsbury	WPGS 288-B	120,440.00
Hopkinton-Westborough	WPGS 289	91,990.00
Huntington*	WPGS 283	323,690.00
Lawrence	WPGM 275	82,660.00
Lunenburg	WPGS 276	78,851.19
Mansfield	WPGS 278-B	91,930.00
Mansfield	WPGS 285-A	90,050.00
Milford*	WPGS 305	117,850.00
Monson	WPGS 279	119,230.00
Newbury	WPGH 75-A	14,814.69
Newbury-Newburyport	WPGH 75-B	297,156.46

		P.D. 54
Quincy	WPGM 260	383,727.00
Sharon*	WPGS 262	151,133.23
Sharon	WPGS 277	65,060.00
Sheffield	WPGH 137-D	111,494.62
Sheffield-(Canaan)*	WPGH 310	7,250.00
Waltham	WPGM 208-C	207,519.98
Weymouth	WPGH 121-C	107,379.69
Worcester	WPGM 293-B	348,260.00
Total		\$3,678,692.66
Planning Survey		63,160.00
Total Under Agreement		\$3,741,852.66
Amount Available		4,210,833.00
Agreement Pending		\$468,980.34

* These projects still under construction. All others completed.

Balances are due on all of the above projects. These will be payable when the final vouchers are submitted and approved.

WPA Funds Used For Federal Aid Purposes

The following amount, \$958,133 was appropriated under the Emergency Relief Appropriation Act of 1935 and was transferred from the WPA to the Bureau of Public Roads.

This amount was apportioned to the following projects, each amount representing 50% of the estimated cost of the work. The remaining 50% was financed by regular Works Program Highway Funds.

Deerfield-Sunderland	WPH R 308-A	\$389,770.00
Deerfield-Sunderland	WPH R 308-B	47,070.00
Gill-Montague	WPSO R 307	521,293.00
Total		\$958,133.00

1936 Regular Federal Aid Funds (Hayden-Cartwright)

Apportioned as follows:

Arlington-Belmont- Cambridge*	242-A	1,180.00
Arlington-Belmont*	242-B	1,010.00
Bourne	258	166,967.55
Cohasset-Hingham* †	170-A	3,235.00
Cohasset-Scituate* †	170-B	6,649.00
Dedham-Norwood- Westwood*	231-B	325.00
Foxborough-Plainville- Wrentham*	220	665.00
Foxborough-Sharon- Walpole*	227	499.00
Gloucester*	99	600.00
Gloucester*	119-B	653.00
Hingham*	15	3,585.00
Holyoke	127-A	269,500.00
Lynnfield**	17	146,720.00
Millbury-Sutton	256-B	268,900.00
Norwood-Sharon- Walpole*	231-A	533.00
Pittsfield**	259-A	136,485.00
Saugus**	3	128,375.45
Saugus**	9	579,675.00

Total		\$1,715,557.00
-----------------	--	----------------

	63
Planning Survey	26,125.00
Total Under Agreement	\$1,741,682.00
Amount Available	1,741,877.00
Agreement Pending	\$195.00

* Landscape Projects.

† Under construction. All others completed.

There are balances due on all of the above projects.

** Additional funds for these projects to come from 1937 Hayden-Cartwright Funds.

All of the above amounts representing 50% of the cost of the projects. The remaining 50% will be paid for by the State.

1937 Regular Federal Aid Funds (Hayden-Cartwright)

Apportioned as follows:

Bourne	106-A	\$48,475.00
Eastham-(Orleans)	36-A	103,155.00
Fitchburg-Leominster†	273-A	194,283.00
Lynnfield	17 (1936)	*5,285.00
Malden-Revere-Saugus	261	457,420.00
Orleans-(Eastham)	175-B	25,895.00
Pittsfield	259-A (1936)	*2,825.00
Saugus	3 (1936)	*7,434.55
Saugus	9 (1936)	8,500.00
Total		\$853,272.55
Planning Survey		26,150.00
Total Under Agreement		\$879,422.55
Amount Available		1,743,487.00
Agreement Pending		\$864,064.45

* Balance.

† Under Construction. All others completed.

Balance Due on All of these Projects.

The above amounts represent 50% of the cost of the projects. The remaining 50% will be paid for by the State.

BRIDGES

During the year the Department has built or contracted for 77 new bridges and structures, of which 54 were structures to replace those destroyed by the flood in 1936; has built or contracted for alterations, repairs or widening for 6 bridges, of which one was damaged by the flood; has examined and reported on 12 bridges at the request of the local public authorities; has examined and reported on 8 bridges at the request of Department authorities; has examined plans for 7 bridges under the provisions of Section 35, Chapter 85, General Laws (Tercentenary Edition); and has made preliminary studies, estimates or plans for 88 structures contemplated in the near future.

The various cities and towns, the localities therein, and the character of the work is given in detail as follows:

Bridges Built or Contracted for, to Replace Bridges Destroyed by Flood

Adams—Lime Street over Hoosic River, steel stringer bridge, one 47-foot span and one 49-foot span.

Ashfield—Spruce Corner over Swit River, steel stringer bridge, one 40-foot span.

Athol—Crescent Street over Millers River, steel stringer bridge, one 75-foot span.

Athol—At Orange line, Pinedale Road over Lawrence Brook, steel stringer bridge, one 52-foot span.

Athol—At Orange line, Fryeville Bridge over Tully River, steel stringer bridge, one 47-foot span.

Barre—South Barre Road over Ware River, steel truss bridge, one 85-foot span.

Barre—Powder Mill Bridge over Ware River, steel stringer bridge, two 36-foot spans and one 60-foot span.

Belchertown—At Palmer line, Depot Street over Swift River, steel stringer bridge, three 34-foot spans.

Berlin—Marlborough Road over Assabet River, steel stringer bridge, one 63-foot span.

Bolton—Seven Bridge Road over Still River, steel stringer bridge, two 30-foot spans and one 40-foot span.

Charlemont—At Shelburne line, Four Mile Square Road over Still River, steel arch bridge, one 122-foot span.

Colrain—Adamsville Road over North River, steel arch bridge, one 122-foot span.

Colrain—Frank Herzig Bridge over West Branch of North River, concrete rigid frame bridge, one 82-foot span.

Colrain—Robert Hillman Bridge over West Branch of North River, concrete rigid frame bridge, one 70-foot span.

Colrain—Overflow at Frank Herzig Bridge over West Branch of North River, concrete beam and slab bridge, one 20-foot span.

Dudley—At Webster line, Perryville Road over French River, Steel stringer bridge, one 52-foot span.

Dudley—Brandon Road over French River, steel stringer bridge, one 52-foot span.

Erving—At Montague line, Paper Mill Bridge over Millers River, steel through truss bridge, one 154-foot span.

Fitchburg—Circle Street over Nashua River, steel stringer bridge, one 75-foot span.

Fitchburg—Lunenburg Street over Baker Brook Overflow, concrete slab bridge, one 13-foot span.

Gardner—At Templeton line, Shoddy Mill Road over Otter River, steel stringer bridge, one 28-foot span.

Hadley—Scott's Bridge over Mill River, concrete rigid frame bridge, one 32-foot span.

Hatfield—Bridge Street over Mill River, steel stringer bridge, three 36-foot spans.

Holden—River Street over Quinapoxet River, concrete beam and slab bridge, two 23-foot spans and one 52-foot span.

Lancaster—Center Bridge Road over Nashua River, steel stringer bridge, two 80-foot spans.

Leominster—Mechanic Street over Nashua River, steel stringer bridge, two 40-foot spans and one 76-foot span.

Ludlow—At Wilbraham line, Red Bridge over Chicopee River, steel stringer bridge, two 83-foot spans.

Lunenburg—Townsend Harbor Road over Mulpus Brook, steel stringer bridge, one 23-foot span.

Northfield—Mt. Hermon Road over Nelson Pond, 8-foot by 8-foot concrete box culvert and extension to existing penstock.

Northfield—Burnham Road over Mill Brook, steel stringer bridge, one 63-foot span.

Orange—South Main Street over Millers River, steel stringer bridge, two 66-foot spans.

Orange—Holtshire Street over Millers River, steel stringer bridge, three 61-foot spans.

Orange—Warwick Road over Orcutt Brook, steel stringer bridge and concrete dam, one 30-foot span for bridge.

Palmer—Main Street over Ware River, concrete beam and slab bridge, two 29-foot spans and one 38-foot span.

Palmer—Church Street over Ware River, concrete beam and slab bridge, one 31-foot span, one 30-foot span, and one 48-foot span.

Pepperell—Main Street over Nashua River, steel stringer bridge, four 66-foot spans; and new supports for building at bridge site.

Pepperell—Mill Street over Nissitisset River, concrete rigid frame bridge, one 62-foot span.

Petersham—Choate's Pond Bridge over Swift River, steel stringer bridge, one 43-foot span.

Princeton—At Sterling line, Pottery Mill Bridge over Keyes Brook, concrete slab bridge, one 20-foot span.

Princeton—Ropers Mill Bridge over Ware River, steel stringer bridge, one 33-foot span.

Royalston—King Street over Millers River, steel pony truss bridge, one 85-foot span.

Royalston—South Royalston Road over Millers River, steel pony truss bridge, one 90-foot span.

Sterling—Bridge Road over East Wachusett Brook, concrete slab bridge, one 20-foot span.

Sutton—Stevens Road over Mumford River, steel stringer bridge, one 43-foot span.

Sutton—State highway over Mumford River, one 45-foot span steel stringer bridge and concrete retaining wall.

Townsend—Warren Road over Squannacook River, through plate girder bridge, one 86-foot span.

Uxbridge—Mendon Street over Blackstone River, steel stringer bridge, one 77-foot span.

Ware—Church Street over Ware River, steel stringer bridge, two 33-foot spans and one 84-foot span.

Ware—Gibbs Crossing over Ware River, steel stringer bridge, two 33-foot spans and one 84-foot span.

Winchendon—State highway route 202 over Millers River, concrete slab bridge, two 21-foot spans.

Winchendon—High Street over Millers River, steel stringer bridge, two 33-foot spans and one 60-foot span.

Winchendon—State highway route 12 over Millers River, steel stringer bridge, one 33-foot span.

Other Bridges Built or Contracted for

Adams—Center Street over Hoosic River, steel stringer bridge one 53-foot span.

Alford—West Street over Seekonk Brook, steel stringer bridge one 35-foot span.

Attleboro—Washington Street over N. Y., N. H., & H. R. R., steel stringer bridge, two 25-foot spans and one 40-foot span

Barre—School Street over Prince River, concrete slab bridge, one 21-foot span.

Blandford—Russell Road over Freeland Brook, concrete slab bridge, one 15-foot span.

Boston—Jamaicaway over Huntington Avenue, relieving platform at approach to bridge.

Braintree—Union Street under N. Y., N. H. & H. R. R., steel girder bridge, one 50-foot span.

Easthampton—Glendale Street over Manhan River, steel stringer bridge, two 24-foot spans and one 62-foot span.

Fitchburg—Concord to Westminster cut-off over Monoosnock Brook, one 35-foot concrete beam and slab and one 25-foot concrete arch.

Gill—At Montague line over Connecticut River, Canal and New York, New Haven & Hartford Railroad at Turners Falls; one 48-foot steel stringer span over railroad; one 211-foot steel deck truss span over canal; one 150-foot span, two 400-foot spans and one 450-foot span steel

deck trusses over river; total length about 2100 feet, including the wing walls.

Hadley—At Northampton line, Calvin Coolidge Memorial Bridge over Connecticut River, steel deck trusses, two 203-foot spans, two 260-foot spans, and one 296-foot span; total length 1441 feet, including wing walls.

Holden—River Street over Wachusett Brook, steel stringer bridge, one 52-foot span.

Huntington—Cut-off over Westfield River and Boston and Albany Railroad with ramp from bridge to railroad station; one 36-foot span steel stringer; one 83-foot span steel rigid frame over railroad; two 40-foot spans and two 44-foot spans steel stringers and one 185-foot span steel arch over river; and four 42-foot spans steel stringers for the ramp; total length of bridge 615 feet.

Lee—Columbia Street over Coddings Brook, 12-foot by 8-foot concrete box culvert.

Lowell—Central Bridge over Merrimack River: One 473-foot span suspension bridge for temporary foot travel; through steel truss bridge, two 138-foot spans and one 198-foot span.

Lowell—Canal at approaches to Central Bridge, steel stringer bridge, one 49-foot span.

Milford—Medway Street over Boston & Albany Railroad, steel stringer bridge, two 49-foot spans and one 64-foot span.

Pittsfield—South Street over Housatonic River, steel stringer bridge, one 61-foot span.

Quincy—At Water Street; canopies, shelters and platform lighting built in connection with bridge construction.

Sharon—At Sharon Station; canopies, shelter shed and lights.

Southbridge—North Woodstock Road over New York, New Haven & Hartford Railroad, steel stringer bridge, one 49-foot span.

Swampscott—Paradise Road under Boston & Maine Railroad, steel girder bridge with timber floor, one 81-foot span.

Alterations, Repairs or Widening Made or Contracted for

Berkley—At Dighton line, Bridge Street over Taunton River, repairs made to floor and draw operating parts.

Fall River—At Somerset line, Slades Ferry Bridge over Taunton River, existing bridge altered by building new draw span, new floor and making general repairs.

Hamilton—At Ipswich line, Highland Street over Ipswich River, existing bridge widened.

Hanson—Main Street over Poor Meadow Brook, existing concrete arch widened.

Lee—Columbia Street over Washington Mountain Brook, existing bridge widened.

Lowell—Moody Street over Merrimack River, existing deck truss bridge repaired after damage by flood.

*Examinations, Reports, Estimates, etc., at Request of
Local Authorities*

Adams—Pleasant Street over Hoosic River, report made on improvement of waterway.

Bridgewater—At Halifax line, Cherry Street over Taunton River, examination and report on existing bridge.

Essex—Pond Street over Essex River, examination and report on existing bridge.

Falmouth—Nashawena Street over Nashawena Creek, examination and report on existing bridge.

Framingham—Central Street at Saxonville Village, examination and report on condition of retaining wall.

Greenfield—Shelburne Street over Green River, examination and report on existing bridge.

Monroe—At Rowe line over Deerfield River, examination and report on existing bridge.

Newbury—White's Bridge on Newman Road over Little River, examination and report on existing bridge.

Newbury—Plum Island Turnpike over Plum Island Creek, examination and report on existing bridge.

Oxford—Rochdale Street over French River, examination and report on existing bridge.

Palmer—Dutton's Bridge over Ware River, examination and report on existing bridge and proposed bridge.

Saugus—Ballard Street over Tidal Creek, examination and report on existing bridge.

*Examinations, Reports, Estimates, etc., at Request of
Department Authorities*

Agawam—At Springfield line, South End Bridge over Connecticut River, estimate for new bridge.

Arlington—River Street over Mystic River, review of prices paid for stone work on bridge.

Greenfield—At Montague line, Montague City Bridge over Connecticut River, examination and report on existing bridge.

Norfolk—At Walpole line, Winter Street over Stop River, examination and report on existing bridge.

Northampton—South Street over Mill River and New York, New Haven & Hartford Railroad and South Street over Clark Street, estimate for reconstruction of the bridges.

Oxford—At Degnam Bridge, report on responsibility for damage due to flood of 1936.

Townsend—Muddy Road Bridge, examination and report on existing bridge.

*Plans Examined Under the Provisions of Section 35,
Chapter 85, General Laws (Ter. Ed.)*

Brockton—East Ashland Street over Trout Brook.

New Braintree—Hardwick Road over Winnamisset Brook.

Saugus—Elm Street over a culvert.

Springfield—State Street Bridge over Roosevelt Avenue, and Water Shop Bridge.

Westminster—Whitmanville Bridge over Whitman River.

Worcester—Grove Street Bridge over Mill Brook.

*Contemplated Structures for which Preliminary Studies,
Estimates, or Plans Have Been Made*

Ashland—Main and Cheery Streets over Boston & Albany Railroad.

Ashland—Pedestrian underpass on Main Street under Boston & Albany Railroad.

Athol—Main Street over Boston & Maine Railroad.

Belchertown—Granby Road over Boston & Maine Railroad.

Bellingham—Mendon Street over New York, New Haven, & Hartford Railroad.

Bernardston—Hale's Crossing over Boston & Maine Railroad.

Beverly—Paradise Crossing over Boston & Maine Railroad.

Boston—At Cambridge line, traffic circle at end of Prison Point Bridge.

Boston—At Milton line, over Neponset River on a proposed new route.

Boston—At Milton line, near Paul's Bridge over Neponset River.

Boston—Porter Street over Boston & Albany Railroad; Prescott Street over Tunnel Road; Bennington and Neptune Streets over Tunnel Road; and Saratoga Street over Tunnel Road.

Boston—East Milton Street over Mattapan connecting highway.

Brimfield—Sturbridge Road over Mill Brook.

Brookline—At Brookline Village and at Cypress Street at junction with Worcester Turnpike.

- Cambridge*—Alterations at approach to Cottage Farm Bridge.
Charlemont—Depot Street over Deerfield River.
Cheshire—Auto route 8 over Boston & Albany Railroad.
Chesterfield—First Bridge and Second Bridge over Stevens Brook.
Chicopee—Elimination of grade crossing, Plainfield Street at Boston & Maine Railroad.
Danvers—Salem Turnpike under Boston and Maine Railroad.
Danvers—Andover Street over Newburyport Turnpike.
Falmouth—Silver Beach Road over Herring River and over New York, New Haven & Hartford Railroad.
Fitchburg—Concord to Westminster cut-off over Woodbury Mill Pond.
Florida—At Savoy line, Mohawk Trail over Cold River.
Gardner—Mechanic Street highway bridge and pedestrian overpass over Boston & Maine Railroad.
Gloucester—Essex Avenue under Boston & Maine Railroad.
Grafton—Depot Street over Blackstone Canal.
Hatfield—West Street over Mill River, widening of bridge.
Haverhill—River Street over Bradley Brook, widening of bridge.
Haverhill—At Methuen line, Bradley Avenue over Hawkes Brook, widening of bridge.
Holliston—Washington Street over Boston & Albany R. R.
Ipswich—Separation of grades at Newburyport Turnpike and Linebrook Road.
Lawrence—Winthrop Avenue over Shawsheen River, Widening of bridge.
Lee—Auto route 20 over Housatonic River.
Leominster—Concord to Westminster cut-off under New York, New Haven & Hartford Railroad, and under North Main Street.
Lincoln—South Great Road over Boston & Maine Railroad.
Manchester—Proposed road over Manchester Harbor.
Mansfield—Pedestrian underpass at Elm Street under New York, New Haven & Hartford Railroad.
Marblehead—Village Street over Boston & Maine Railroad.
Medfield—At Millis line, Dwight Street over Charles River.
Milton—Proposed road over New York, New Haven, and Hartford Railroad.
Monroe—Valley Road over Dunbar Brook, widening existing bridge.
Montague—Main Street over Central Vermont Railway.
Newburyport—High Street over Boston & Maine Railroad.
Newton—At Weston line, Northern Circumferential Highway over Charles River.
North Adams—Williamstown Road over a brook, widening existing bridge.
North Andover—Boxford Road over Mosquito Brook.
Northbridge—Mendon Road over West River.
Palmer—Dutton's Bridge over Ware River.
Peabody—Lowell Street over Newburyport Turnpike.
Peabody—Andover Street over Circumferential Highway.
Pittsfield—South Street over New York, New Haven & Hartford Railroad.
Randolph—North Street over New York, New Haven & Hartford Railroad.
Rowley—Haverhill Street over Newburyport Turnpike.
Salisbury—Elm Street over Boston & Maine Railroad.
Sharon—Garden Street over New York, New Haven & Hartford Railroad, pedestrian overpass.
Shrewsbury—Southwest Connection over Flint Pond, over Lake Quinsigamond and over Grafton Street.
Southwick—College Highway over Uncle Oliver's Brook.
Southwick—State Highway over Webb Brook.
Sudbury—Boston Post Road over Parmenters Mill Pond.

Sudbury—Worcester Road over New York, New Haven & Hartford Railroad.

Sutton—Worcester Road over Wilkinsonville Road.

Sutton—Worcester to Providence Road over Central Turnpike.

Tewksbury—Wamesit Crossing over Boston & Maine Railroad.

Topsfield—Ipswich Road over Newburyport Turnpike.

West Bridgewater—West Centre Street over Hockamuck River.

West Springfield—Dike wall on Riverdale Road at North End Bridge.

Weston—Circumferential Highway over South Avenue and over Weston Aqueduct.

Williamstown—North Adams Road over Green River.

Winchendon—New Boston Road over Boston & Maine Railroad.

Winchendon—Pequoig Crossing, Ashburnham Road over Boston & Maine Railroad.

Winchester—Main Street over outlet of Wedge Pond.

Windsor—Worthington Road over two brooks.

Windsor—Savoy Road over Westfield River.

CONSTRUCTION OF TOWN AND COUNTY WAYS

(Section 34, Chapter 90, General Laws, Ter. Ed.)

During the year the Department has contracted for work to be done in the towns and cities named in the following table, which also shows the type of road or nature of work, the length contracted for, and the allotments or contributions by the State, towns, cities, and counties:

COUNTIES AND TOWNS	State	CONTRIBUTIONS Town	County	TYPE OF ROAD OR NATURE OF WORK	LENGTH CON- TRACTED FOR (FEET)
<i>Barnstable County</i>					
Barnstable . . .	\$3,500.00	\$2,500.00	\$2,500.00	Gravel and tar mixed in place	6,362
Barnstable . . .	1,049.69	750.15	750.15		
Barnstable . . .	185.31	132.35	132.35	Repairs	515
Barnstable . . .	300.00	150.00	150.00	Riprap	—
Barnstable . . .	9,265.00	6,717.50	6,717.50	Bituminous concrete	2,931
Bourne	15,200.00	7,600.00	7,600.00	Bituminous concrete	3,390
Brewster	3,500.00	—	3,500.00	Bituminous concrete	1,850
Falmouth	7,000.00	3,500.00	3,500.00	Bituminous concrete	2,990
Harwich	7,000.00	3,500.00	3,500.00	Bituminous concrete	6,700
Orleans	7,700.00	5,500.00	5,500.00	Bituminous concrete	3,418
Wellfleet	4,200.00	3,000.00	3,000.00	Clay hardening	6,050
<i>Berkshire County</i>					
Adams	\$12,000.00	\$6,000.00	\$6,000.00	Bridge and approaches	—
Alford	1,000.00	500.00	500.00	Gravel	900
			250.00	Oiling	2,000
Alford	500.00	250.00		Gravel and tar	700
Alford	3,750.00	1,875.00	1,875.00	Bridge	—
Becket	2,800.00	1,400.00	1,400.00	Gravel	1,275
				Oiling	1,800
Becket	1,000.00	500.00	500.00	Gravel	650
Cheshire	2,200.00	1,100.00	1,100.00	Gravel	1,650
Clarksburg	1,400.00	700.00	700.00	Gravel and calcium chloride	900
Clarksburg	400.00	400.00	400.00	Repairs and oiling	13,025
Dalton	7,000.00	3,500.00	3,500.00	Bituminous concrete	2,272
Dalton	1,000.00	1,500.00	1,000.00	Bituminous concrete	525
Dalton	400.00	400.00	400.00	Repairs	1,850
Dalton	2,500.00	1,250.00	1,250.00	Stone retread	4,700
Egremont	2,200.00	1,100.00	1,100.00	Gravel	1,250
Florida	2,800.00	2,000.00	1,400.00	Gravel	700
Great Barrington	7,000.00	3,500.00	3,500.00	Bituminous concrete	2,700
Great Barrington	1,200.00	1,200.00	1,200.00	Maintenance	24,469
Hancock	7,000.00	500.00	1,800.00	Bituminous macadam	1,900
Hinsdale	5,182.00	79.00	—	Maintenance	7,271
			500.00	Gravel and tar and stone retread	1,000
Hinsdale	1,500.00	500.00		Maintenance	13,200
Hinsdale	1,027.00	187.00	—	Oiling and stone retread	2,850
Lanesborough	3,500.00	1,750.00	650.00	Gravel	600
Lanesborough	1,400.00	1,000.00	2,100.00	Oiling and stone retread	3,663
Lanesborough	3,500.00	—	3,500.00	Gravel	2,300
Lee	9,300.00	5,000.00	4,650.00	Bridge	
				Bridge extension	
				Bituminous concrete	1,846
				Grading and drainage	1,388
Lenox	3,500.00	2,500.00	1,750.00	Stone retread	1,600
				Grading and drainage	2,450

COUNTIES AND TOWNS	CONTRIBUTIONS			TYPE OF ROAD OR NATURE OF WORK	LENGTH CON- TRACTED FOR (FEET)
	State	Town	County		
Lenox	5,600.00	2,500.00	2,800.00	Bituminous concrete	1,157
Monterey	2,100.00	1,050.00	1,050.00	Gravel	1,250
				Oiling	1,975
Mount Washington	1,500.00	500.00	1,000.00	Gravel	1,550
New Ashford	800.00	400.00	400.00	Gravel	700
New Ashford	500.00	250.00	250.00	Gravel	600
New Marlborough	4,200.00	2,100.00	2,100.00	Gravel	2,150
				Oiling and stone retread	2,000
North Adams	15,000.00	9,000.00	7,500.00	Bituminous concrete	2,893
North Adams	3,500.00	—	3,500.00	Gravel	1,950
Otis	3,200.00	2,250.00	1,600.00	Oiling	2,750
				Gravel	1,600
Peru	1,703.00	52.00	—	Maintenance	18,200
Peru	1,425.00	43.00	—	Maintenance	15,300
Pittsfield	42,000.00	30,000.00	40,000.00	Bridge	
				Reinforced cement concrete	240
				Bituminous concrete	6,927
Richmond	1,800.00	900.00	900.00	Gravel	1,300
Richmond	800.00	800.00	800.00	Maintenance	18,480
Sandisfield	2,800.00	2,000.00	1,400.00	Oiling	1,950
				Gravel	1,750
Savoy	1,500.00	500.00	1,500.00	Gravel	1,200
Sheffield	1,400.00	1,000.00	700.00	Gravel	900
Sheffield	1,400.00	1,000.00	700.00	Gravel	1,075
Stockbridge	5,300.00	3,750.00	2,650.00	Bituminous concrete	2,050
Stockbridge	700.00	700.00	700.00	Maintenance	15,165
Tyringham	2,800.00	1,400.00	1,400.00	Oiling	2,950
				Gravel	3,250
Washington	9,000.00	1,500.00	9,000.00	Gravel and tar	7,285
West Stockbridge	2,500.00	1,750.00	1,250.00	Gravel	1,100
West Stockbridge	1,800.00	1,250.00	900.00	Oiling	1,250
				Gravel and tar	1,650
Williamstown	3,500.00	1,750.00	1,750.00	Oiling, gravel and stone re- tread	9,133
Windsor	1,400.00	700.00	700.00	Gravel	1,000
<i>Bristol County</i>					
Acushnet	\$3,500.00	\$2,500.00	\$2,500.00	Bituminous macadam	1,350
Attleboro	9,000.00	4,500.00	4,500.00	Bituminous macadam	2,620
Berkley	1,000.00	1,000.00	1,000.00	Maintenance	46,936
Berkley	1,200.00	600.00	600.00	Bridge repairs	—
Dighton	2,000.00	1,400.00	1,400.00	Bridge repairs	—
Dartmouth	9,100.00	4,550.00	4,550.00	Bituminous concrete	3,600
Easton	7,000.00	3,500.00	3,500.00	Bituminous concrete	1,950
Fairhaven	1,000.00	1,000.00	1,000.00	Maintenance	28,195
Freetown	1,000.00	1,000.00	1,000.00	Maintenance	62,527
North Attleborough	4,900.00	2,450.00	2,450.00	Bituminous concrete	1,250
Norton	500.00	500.00	500.00	Maintenance	23,194
Raynham	500.00	500.00	500.00	Maintenance	16,080
Rehoboth	4,000.00	2,500.00	2,500.00	Gravel and tar	1,800
Rehoboth	800.00	800.00	800.00	Maintenance	53,887
Seekonk	7,000.00	5,000.00	5,000.00	Bituminous concrete	2,330
Taunton	7,000.00	3,500.00	3,500.00	Bituminous concrete	1,090
<i>Dukes County</i>					
Edgartown	\$1,900.00	\$950.00	\$950.00	Maintenance	15,534
Tisbury	1,500.00	750.00	750.00	Maintenance	7,707
Tisbury	1,400.00	700.00	700.00	Maintenance	6,972
West Tisbury	500.00	250.00	250.00	Maintenance	4,150
<i>Essex County</i>					
Amesbury	\$5,600.00	\$2,800.00	\$2,800.00	Gravel and tar	4,200
Amesbury	1,000.00	1,000.00	—	Maintenance	15,200
Andover	8,400.00	4,200.00	4,200.00	Penolithic pavement	3,520
Beverly	6,300.00	3,150.00	3,150.00	Bituminous concrete	3,568
Beverly	2,500.00	1,250.00	1,250.00	Bituminous concrete	1,150
Beverly	5,200.00	2,600.00	2,600.00	Bituminous concrete	1,650
Boxford	2,100.00	1,050.00	1,050.00	Broken stone mixed in place with asphalt emulsion	1,500
Boxford	3,500.00	1,750.00	1,750.00	Grading and drainage	3,985
Boxford	1,000.00	1,000.00	—	Maintenance	7,300
Danvers	8,400.00	4,200.00	4,200.00	Bituminous macadam	2,200
Essex	1,000.00	1,000.00	—	Maintenance	23,750
Georgetown	1,000.00	1,000.00	—	Maintenance	6,800
Gloucester	2,710.20	2,710.20	—	Bituminous macadam	1,200
Gloucester	789.80	789.80	—	Broken stone surfacing	1,200
Groveland	500.00	500.00	—	Maintenance	12,626
Hamilton	5,900.00	4,300.00	2,950.00	Bituminous concrete	3,382
Hamilton	500.00	500.00	—	Maintenance	30,807
Hamilton	2,500.00	1,250.00	1,250.00	Bituminous macadam	2,932
Haverhill	23,000.00	11,500.00	27,500.00	Bituminous macadam	4,311
Haverhill	5,000.00	5,000.00	—	Bituminous concrete	1,210
Hamilton	3,000.00	1,500.00	1,500.00	Roadway slab with sidewalk extension on stone arch bridge	—
Ipswich	3,500.00	1,750.00	1,750.00	Bituminous concrete	1,200
Ipswich	4,500.00	2,250.00	2,250.00	Bituminous concrete	1,200

COUNTIES AND TOWNS	CONTRIBUTIONS		County	TYPE OF ROAD OR NATURE OF WORK	LENGTH CON- TRACTED FOR (FEET)
	State	Town			
Ipswich	4,200.00	2,100.00	2,100.00	Broken stone mixed in place with cut-back asphalt . . .	3,400
Lawrence	5,000.00	2,500.00	2,500.00	Reinforced cement concrete (widening)	2,264
Lawrence	6,300.00	3,150.00	3,150.00	Bituminous concrete	2,370
Lynnfield	3,500.00	1,750.00	1,750.00	Bituminous concrete	623
Lynnfield	4,200.00	2,100.00	2,100.00	Broken stone mixed in place with cut-back asphalt . . .	2,300
Lynnfield	500.00	500.00	—	Maintenance	18,950
Marblehead	14,000.00	7,000.00	7,000.00	Bituminous concrete	3,125
Merrimac	1,500.00	1,500.00	—	Maintenance	10,500
Methuen	14,000.00	7,000.00	7,000.00	Bituminous concrete	2,747
Middleton	12,300.00	1,900.00	4,700.00	Bituminous concrete	2,300
Middleton	1,000.00	1,000.00	—	Maintenance	14,414
Newbury	1,500.00	1,500.00	—	Maintenance	10,000
North Andover	4,900.00	2,450.00	2,450.00	Broken stone mixed in place with cut-back asphalt . . .	3,100
Peabody	9,100.00	4,550.00	4,550.00	Bituminous macadam	2,044
Rockport	2,100.00	1,050.00	1,050.00	Broken stone mixed in place with asphalt	2,050
Rockport	2,100.00	1,050.00	1,050.00	Broken stone mixed in place with asphalt	650
Rockport	500.00	500.00	—	Maintenance	3,000
Rowley	1,400.00	700.00	700.00	Gravel and tar	2,400
Salisbury	2,100.00	1,050.00	1,050.00	Grading	1,950
Salisbury	1,400.00	700.00	700.00	Gravel mixed in place with tar	1,250
Saugus	2,800.00	2,000.00	1,400.00	Penolithic pavement	918
Saugus	4,200.00	3,000.00	2,100.00	Penolithic pavement (wid- ening)	4,000
Swampscott	2,100.00	1,050.00	1,050.00	Bituminous macadam	400
Topsfield	9,100.00	1,400.00	3,500.00	Bituminous concrete	2,544
Topsfield	1,000.00	1,000.00	—	Maintenance	21,400
Wenham	9,100.00	1,400.00	3,500.00	Bituminous concrete	1,972
Wenham				Bituminous concrete	800
West Newbury	3,500.00	1,750.00	1,750.00	Grading and drainage	2,050
<i>Franklin County</i>					
Ashfield	\$1,000.00	\$500.00	\$500.00	Gravel and tar	2,700
Ashfield	1,344.00	96.00	—	Maintenance	12,672
Ashfield	1,000.00	500.00	500.00	Gravel mixed in place with tar	2,400
Buckland	1,400.00	700.00	700.00	Broken stone mixed in place with cut-back asphalt . . .	2,500
Charlemont	1,400.00	700.00	700.00	Grading	1,800
Colrain	1,400.00	700.00	700.00	Grading and drainage	900
Conway	2,100.00	1,400.00	700.00	Gravel	750
Deerfield	1,400.00	700.00	700.00	Bituminous macadam	685
Erving	1,400.00	700.00	700.00	Gravel	900
Gill	1,400.00	700.00	700.00	Gravel mixed in place with tar	700
Gill	2,448.00	352.00	—	Maintenance	14,784
Greenfield	3,500.00	2,800.00	700.00	Bituminous macadam	4,050
Hawley	1,400.00	350.00	350.00	Gravel	800
Hawley	1,400.00	350.00	350.00	Gravel	400
Heath	1,400.00	700.00	700.00	Gravel	600
Leverett	1,400.00	700.00	700.00	Gravel mixed in place with tar	1,800
Leyden	2,800.00	700.00	700.00	Grading	1,550
Monroe	1,400.00	700.00	700.00	Gravel	600
Montague	6,300.00	5,600.00	700.00	Bituminous macadam	2,807
New Salem	2,100.00	1,400.00	700.00	Gravel mixed in place with tar	8,400
New Salem	900.00	600.00	300.00	Grading	600
Northfield	1,400.00	700.00	700.00	Gravel mixed in place with tar	3,000
Orange	7,500.00	6,500.00	1,000.00	Bituminous concrete	2,649
Orange	560.00	280.00	—	Maintenance	7,392
Orange	1,500.00	1,500.00	—	Maintenance	22,570
Rowe	2,100.00	1,050.00	700.00	Gravel	1,625
Shelburne	1,400.00	700.00	700.00	Bituminous macadam	1,600
Shutesbury	1,400.00	700.00	700.00	Gravel	750
Sunderland	7,700.00	3,000.00	700.00	Bituminous macadam	5,258
Warwick	1,400.00	700.00	700.00	Gravel	600
Warwick	3,365.00	55.00	—	Maintenance	30,624
Wendell	2,100.00	1,400.00	700.00	Gravel	2,250
Wendell	1,250.00	1,250.00	—	Maintenance	25,872
Whately	1,400.00	700.00	700.00	Bituminous macadam	1,050
<i>Hampden County</i>					
Agawam	\$7,700.00	\$3,850.00	\$3,850.00	Bituminous macadam	2,825
Agawam	1,200.00	600.00	600.00	Repairs and oiling	19,008
Elandford	4,500.00	2,000.00	2,500.00	Bridge and approaches . . .	—
Brimfield	2,800.00	1,400.00	1,400.00	Oiling	2,200
Brimfield	2,800.00	1,400.00	1,400.00	Gravel mixed in place with tar	1,750
Brimfield	1,000.00	1,000.00	1,000.00	Maintenance	36,532

COUNTIES AND TOWNS	CONTRIBUTIONS			TYPE OF ROAD OR NATURE OF WORK	LENGTH CON- TRACTED FOR (FEET)
	State	Town	County		
Chester	600.00	600.00	600.00	Maintenance	14,150
Chester	2,800.00	700.00	1,400.00	Stone retread	4,700
Chester	2,800.00	700.00	1,400.00	Oiling	6,500
Chicopee	17,900.00	3,950.00	8,950.00	Gravel	1,170
East Longmeadow	7,000.00	3,500.00	3,500.00	Bituminous concrete	7,698
East Longmeadow	400.00	400.00	400.00	Bituminous macadam	3,300
East Longmeadow	800.00	400.00	400.00	Maintenance	8,750
East Longmeadow	1,400.00	700.00	700.00	Gravel mixed in place with tar	2,250
Granville	4,200.00	2,100.00	2,100.00	Gravel mixed in place with tar	2,123
Hampden	2,100.00	800.00	1,300.00	Bituminous macadam	1,200
Hampden	400.00	400.00	400.00	Gravel mixed in place with tar	2,000
Holland	2,800.00	700.00	2,100.00	Maintenance	12,600
Holland	500.00	500.00	500.00	Gravel mixed in place with tar	3,575
Holland	250.00	250.00	250.00	Maintenance	25,600
Longmeadow	6,000.00	3,000.00	3,000.00	Maintenance	20,750
Ludlow	3,400.00	1,700.00	1,700.00	Gravel mixed in place with cut-back asphalt	6,471
Ludlow	2,500.00	1,250.00	1,250.00	Bituminous macadam	1,600
Ludlow	1,500.00	750.00	750.00	Bituminous macadam	1,100
Monson	3,500.00	2,500.00	1,750.00	Bituminous macadam	700
Monson	3,500.00	2,500.00	1,750.00	Gravel mixed in place with asphaltic oil	2,300
Monson	500.00	500.00	500.00	Bituminous concrete	1,220
Montgomery	3,500.00	700.00	1,800.00	Maintenance	12,050
Montgomery	300.00	300.00	300.00	Stone retread	2,500
Palmer	7,000.00	5,000.00	3,500.00	Gravel	2,150
Palmer	1,000.00	1,000.00	1,000.00	Maintenance	7,250
Russell	750.00	375.00	375.00	Bituminous concrete	2,294
Russell	150.00	150.00	150.00	Maintenance	18,700
Southwick	3,500.00	1,400.00	2,100.00	Retaining wall Repairs	1,900
Southwick	2,260.00	740.00	—	Bituminous macadam	13,728
Southwick	700.00	700.00	700.00	Maintenance	16,368
Springfield	29,800.00	14,900.00	14,900.00	Bituminous concrete	9,100
Tolland	3,500.00	1,400.00	2,100.00	Stone retread	4,150
Wales	2,100.00	1,050.00	1,050.00	Gravel	650
Wales	300.00	300.00	300.00	Gravel mixed in place with tar	1,700
West Springfield	11,600.00	5,800.00	5,800.00	Maintenance	13,000
Westfield	2,100.00	1,050.00	1,050.00	Bituminous concrete	1,252
Westfield	4,200.00	2,100.00	2,100.00	Bituminous macadam	2,270
Westfield	1,000.00	1,000.00	1,000.00	Gravel stone mixed in place with tar	5,000
Wilbraham	2,800.00	1,400.00	1,400.00	Maintenance	18,555
Wilbraham	1,000.00	500.00	500.00	Bituminous macadam	1,700
Wilbraham	350.00	350.00	350.00	Bituminous macadam	1,800
Wilbraham				Maintenance	9,350
<i>Hampshire County</i>					
Amherst	\$8,400.00	\$5,600.00	\$2,800.00	Bituminous macadam	2,700
Belchertown	5,300.00	2,650.00	2,650.00	Bituminous concrete	3,200
Belchertown	1,288.00	92.00	—	Maintenance	12,144
Chesterfield	1,000.00	500.00	500.00	Gravel	500
Chesterfield	1,000.00	500.00	500.00	Gravel and tar	542
Chesterfield	1,000.00	500.00	500.00	Gravel	600
Chesterfield	250.00	250.00	250.00	Maintenance	5,280
Chesterfield	3,450.00	150.00	—	Maintenance	31,680
Cummington	1,800.00	900.00	200.00	Gravel	1,100
Cummington	400.00	200.00	200.00	Gravel	400
Cummington	250.00	250.00	250.00	Maintenance	2,500
Cummington	863.00	37.00	—	Maintenance	7,920
Easthampton	13,000.00	6,500.00	6,500.00	Bridge	—
Easthampton	3,200.00	1,800.00	1,400.00	Bituminous concrete	1,800
Enfield	500.00	500.00	500.00	Maintenance	13,200
Goshen	1,400.00	700.00	700.00	Gravel	900
Goshen	1,035.00	45.00	—	Maintenance	9,504
Granby	2,800.00	1,400.00	1,400.00	Bituminous macadam	1,100
Greenwich	1,000.00	500.00	500.00	Repairs and oiling	19,536
Hadley	3,600.00	1,800.00	1,800.00	Gravel and asphaltic oil	2,050
Hadley	400.00	400.00	400.00	Bituminous macadam	725
Huntington	2,800.00	1,400.00	1,400.00	Maintenance	10,650
Huntington				Gravel and tar	5,000
Middlefield	1,400.00	700.00	700.00	Gravel	685
Middlefield	1,000.00	500.00	500.00	Oiling and stone retread	1,800
Middlefield	3,294.00	506.00	500.00	Gravel	550
Northampton	2,100.00	1,050.00	1,050.00	Stone retread	2,200
Northampton	1,400.00	700.00	700.00	Bituminous macadam	1,390
Northampton				Gravel mixed in place with tar	2,700
Northampton	4,200.00	2,100.00	2,100.00	Bituminous macadam	2,050
Northampton	5,000.00	2,500.00	2,500.00	Bituminous concrete	1,350
Pelham	18,250.00	2,000.00	6,750.00	Bituminous concrete	4,950

COUNTIES AND TOWNS	CONTRIBUTIONS		County	TYPE OF ROAD OR NATURE OF WORK	LENGTH CON-
	State	Town			TRACTED FOR (FEET)
Plainfield	1,400.00	700.00	700.00	Gravel and tar	900
Plainfield	300.00	300.00	300.00	Maintenance	7,000
Plainfield	1,463.00	37.00	—	Maintenance	10,560
South Hadley	6,200.00	3,100.00	3,100.00	Bituminous concrete	3,538
South Hadley	1,400.00	700.00	700.00	Repairs and drainage	8,000
Southampton	1,000.00	500.00	500.00	Stone retread	1,475
Ware	3,500.00	1,750.00	1,750.00	Bituminous concrete (wid-	
				ening)	3,444
Westhampton	1,400.00	700.00	700.00	Gravel	1,000
Westhampton	500.00	500.00	500.00	Maintenance	10,000
Williamsburg	1,800.00	900.00	900.00	Bridge and approaches	—
Williamsburg	250.00	250.00	250.00	Maintenance	5,280
Worthington	2,000.00	1,000.00	1,000.00	Gravel	1,500
Worthington	1,400.00	1,000.00	1,000.00	Gravel	754
Worthington	593.00	34.00	—	Maintenance	7,193
Worthington	2,960.00	135.00	—	Maintenance	28,700
<i>Middlesex County</i>					
Acton	\$3,500.00	\$2,500.00	\$2,500.00	Bituminous concrete	1,200
Acton	1,400.00	2,000.00	2,000.00	Maintenance	102,432
Acton	1,400.00	1,000.00	1,600.00	Gravel and tar	420
Arlington	4,200.00	3,000.00	3,000.00	Bituminous concrete	780
Ashby	500.00	1,000.00	1,000.00	Maintenance	19,536
Ashby	1,000.00	500.00	1,000.00	Gravel and tar	1,500
Ashland	1,500.00	1,500.00	1,500.00	Maintenance	31,680
Ashland	1,000.00	500.00	1,000.00	Gravel and tar	1,550
Ayer	4,900.00	3,500.00	3,500.00	Bituminous concrete	1,950
Ayer	1,400.00	2,000.00	2,000.00	Maintenance	50,054
Bedford	1,400.00	2,000.00	2,000.00	Maintenance	46,464
Bedford	1,800.00	1,000.00	1,000.00	Bituminous macadam	1,000
Bedford	3,500.00	2,000.00	2,000.00	Bituminous concrete	1,500
Belmont	4,500.00	4,500.00	4,500.00	Bituminous concrete	1,950
Billerica	2,100.00	3,000.00	3,000.00	Maintenance	99,422
Billerica	4,200.00	3,000.00	3,000.00	Bituminous macadam	1,900
Billerica	4,200.00	3,000.00	3,000.00	Bituminous concrete	1,550
Boxborough	700.00	800.00	800.00	Maintenance	44,035
Boxborough	500.00	250.00	250.00	Gravel and tar	1,400
Burlington	2,100.00	3,000.00	3,000.00	Maintenance	85,536
Burlington	2,200.00	2,000.00	2,000.00	Bituminous macadam (wid-	
				ening)	2,800
Burlington	2,800.00	2,000.00	2,000.00	Gravel (widening)	4,500
Cambridge	16,000.00	16,000.00	—	Bituminous concrete	4,212
Cambridge	29,000.00	29,000.00	—	Bituminous concrete	4,393
Carlisle	1,500.00	1,500.00	1,500.00	Maintenance	64,944
Chelmsford	2,100.00	3,000.00	3,000.00	Maintenance	83,952
Chelmsford	4,200.00	3,500.00	3,500.00	Bituminous concrete	1,650
Concord	1,500.00	1,500.00	1,500.00	Maintenance	99,739
Concord	4,000.00	4,405.00	4,000.00	Bituminous macadam	1,635
Concord	7,200.00	6,000.00	4,800.00	Bituminous concrete	1,960
Dracut	2,100.00	3,000.00	3,000.00	Maintenance	56,232
Dracut	4,200.00	3,000.00	3,000.00	Bituminous concrete	1,500
Dunstable	1,500.00	1,500.00	1,500.00	Maintenance	50,160
Dunstable	1,400.00	1,000.00	1,000.00	Gravel (widening)	2,000
Everett	35,000.00	35,000.00	—	Bituminous concrete	6,813
Framingham	9,200.00	8,400.00	8,400.00	Penolithic pavement	4,026
Framingham	5,500.00	5,900.00	5,900.00	Bituminous concrete	1,750
Framingham	1,400.00	2,000.00	2,000.00	Maintenance	85,483
Groton	2,500.00	3,500.00	3,500.00	Maintenance	58,186
Groton	4,200.00	3,000.00	3,000.00	Gravel and tar	8,350
Holliston	1,500.00	1,500.00	1,500.00	Maintenance	53,328
Holliston	4,200.00	1,000.00	4,000.00	Bituminous concrete	1,650
Hopkinton	1,400.00	2,000.00	2,000.00	Maintenance	70,224
Hopkinton	2,800.00	3,000.00	3,000.00	Bituminous macadam	1,775
Hudson	1,400.00	2,000.00	2,000.00	Maintenance	42,134
Hudson	3,800.00	2,700.00	2,700.00	Penolithic pavement	1,360
Hudson	8,800.00	8,500.00	6,000.00	Bituminous concrete	2,290
Lexington	2,100.00	3,000.00	3,000.00	Maintenance	61,829
Lexington	1,400.00	1,000.00	1,000.00	Penolithic pavement	250
Lexington	6,600.00	4,000.00	4,000.00	Penolithic pavement	1,810
Lincoln	1,000.00	1,000.00	1,000.00	Maintenance	36,960
Lincoln	2,100.00	1,500.00	1,500.00	Gravel and tar	1,900
Littleton	1,400.00	2,100.00	2,100.00	Maintenance	67,742
Littleton	2,100.00	1,500.00	1,500.00	Gravel and tar	2,500
Lowell	21,000.00	14,000.00	7,000.00	Bituminous concrete	5,900
Malden	15,550.00	7,775.00	7,775.00	Bituminous concrete	2,155
Malden	12,450.00	6,225.00	6,225.00	Bituminous concrete	2,360
Marlborough	2,800.00	2,000.00	2,000.00	Bituminous macadam	675
Marlborough	8,400.00	6,000.00	6,000.00	Bituminous concrete	2,125
Maynard	1,500.00	1,500.00	1,500.00	Maintenance	36,274
Maynard	8,400.00	8,000.00	7,000.00	Bituminous concrete	3,250
Medford	25,000.00	22,500.00	20,000.00	Bituminous concrete	4,113
Natick	1,500.00	1,500.00	1,500.00	Maintenance	59,822
Natick	1,400.00	700.00	700.00	Drainage	—
Natick	10,500.00	8,000.00	7,500.00	Bituminous concrete	2,510
Newton	*8,000.00	12,000.00	*4,000.00	Grading and drainage	1,562

* Transferred from 1936 contract.

COUNTIES AND TOWNS	CONTRIBUTIONS		County	TYPE OF ROAD OR NATURE OF WORK	LENGTH CON- TRACTED FOR (FEET)
	State	Town			
North Reading	1,400.00	2,000.00	2,000.00	Maintenance	52,272
North Reading	4,200.00	3,000.00	3,000.00	Bituminous concrete	2,600
Pepperell	2,800.00	4,000.00	4,000.00	Maintenance	83,424
Reading	1,000.00	1,000.00	1,000.00	Maintenance	33,634
Reading	5,600.00	4,000.00	4,000.00	Penolithic pavement	1,650
Reading	5,600.00	4,000.00	4,000.00	Bituminous concrete	1,625
Sherborn	1,800.00	2,250.00	2,250.00	Maintenance	74,448
Shirley	1,400.00	2,000.00	2,000.00	Maintenance	51,216
Shirley	2,141.00	1,529.50	1,529.50	Gravel and tar	2,568
Shirley	3,459.00	2,470.50	2,470.50	Gravel and cut-back asphalt	4,000
Stoneham	13,100.00	9,333.00	7,000.00	Penolithic pavement	3,170
Stoneham	1,000.00	1,000.00	1,000.00	Maintenance	35,587
Stow	1,400.00	2,000.00	2,000.00	Maintenance	41,184
Sudbury	1,400.00	2,000.00	2,000.00	Maintenance	81,840
Sudbury	2,800.00	2,000.00	2,000.00	Gravel and tar	3,300
Tewksbury	1,400.00	2,500.00	2,500.00	Maintenance	55,440
Tewksbury	1,400.00	1,000.00	1,000.00	Gravel and tar	1,500
Tewksbury	3,500.00	2,500.00	2,500.00	Gravel and tar	3,600
Tewksbury	700.00	425.00	425.00	Gravel	400
Tewksbury	700.00	400.00	400.00	Gravel and tar	700
Townsend	1,400.00	2,000.00	2,000.00	Maintenance	41,554
Townsend	1,400.00	1,000.00	1,000.00	Gravel and tar	2,000
Townsend	1,400.00	1,000.00	1,000.00	Gravel and tar	1,800
Tyngsborough	1,800.00	2,500.00	2,500.00	Maintenance	86,592
Tyngsborough	1,400.00	1,000.00	1,400.00	Gravel and tar	2,000
Tyngsborough	1,400.00	1,000.00	1,400.00	Gravel and tar	1,300
Wakefield	1,400.00	1,700.00	2,000.00	Maintenance	42,504
Wakefield	8,900.00	6,675.00	4,450.00	Bituminous concrete	3,500
Wakefield	2,300.00	1,150.00	1,150.00	Bituminous concrete	525
Waltham	5,600.00	4,000.00	4,000.00	Bituminous macadam	3,450
Waltham	12,600.00	8,400.00	6,000.00	Bituminous concrete	3,745
Watertown	5,309.75	3,792.13	3,792.13	Bituminous concrete	2,090
Watertown	6,991.21	8,307.39	5,307.39	Bituminous concrete	1,860
Wayland	6,300.00	6,000.00	6,000.00	Bituminous concrete	1,320
Wayland				Gravel and tar	3,273
Wayland	1,800.00	2,500.00	2,500.00	Maintenance	52,800
Westford	2,100.00	3,000.00	3,000.00	Maintenance	143,088
Westford	1,400.00	1,000.00	1,000.00	Gravel and tar (widening)	3,000
Wilmington	1,200.00	1,200.00	1,200.00	Maintenance	40,762
Wilmington	2,800.00	2,000.00	2,000.00	Gravel and tar	1,900
Winchester	3,500.00	3,000.00	3,000.00	Bituminous concrete	860
Winchester	10,500.00	7,000.00	5,000.00	Bituminous concrete	3,260
Woburn	14,000.00	7,000.00	7,000.00	Bituminous concrete	3,800
Woburn	21,000.00	10,500.00	10,500.00	Bituminous concrete	4,650
<i>Nantucket County</i>					
Nantucket	\$1,000.00	\$2,000.00	—	Maintenance	10,800
<i>Norfolk County</i>					
Avon	\$1,300.00	\$1,300.00	\$1,300.00	Maintenance	29,198
Bellingham	1,400.00	500.00	1,000.00	Maintenance	62,040
Bellingham	1,400.00	2,000.00	—	Grading and drainage	2,650
Braintree	13,000.00	13,000.00	—	Grading and drainage	2,489
Brookline	3,500.00	3,500.00	—	Bituminous concrete	2,118
Canton	1,000.00	1,000.00	—	Maintenance	38,174
Dedham	7,000.00	10,000.00	—	Bituminous concrete	2,185
Dedham	1,000.00	1,000.00	1,000.00	Maintenance	5,174
Dover	600.00	600.00	600.00	Maintenance	2,700
Foxborough	3,500.00	3,500.00	—	Gravel and tar	3,400
Foxborough	1,000.00	1,000.00	1,000.00	Maintenance	5,000
Franklin	4,600.00	6,500.00	—	Gravel and tar	4,540
Franklin	1,500.00	1,500.00	1,500.00	Maintenance	98,261
Holbrook	500.00	500.00	500.00	Maintenance	29,462
Medway	1,500.00	1,500.00	1,500.00	Maintenance	61,618
Medway	1,800.00	2,500.00	—	Gravel and tar	2,400
Millis	1,000.00	1,000.00	1,000.00	Maintenance	66,739
Milton	500.00	500.00	500.00	Maintenance	500
Needham	500.00	500.00	500.00	Maintenance	42,768
Norfolk	1,500.00	1,500.00	1,500.00	Maintenance	63,571
Norwood	24,500.00	24,500.00	—	Bituminous concrete	3,200
Norwood	300.00	600.00	300.00	Repairs	185
Plainville	500.00	500.00	500.00	Maintenance	12,672
Quincy	21,000.00	21,000.00	—	Bituminous concrete	4,900
Randolph	1,500.00	1,500.00	1,500.00	Maintenance	27,456
Sharon	1,000.00	1,000.00	1,000.00	Maintenance	46,464
Sharon	3,500.00	5,000.00	—	Bituminous concrete	2,080
Stoughton	1,000.00	1,000.00	1,000.00	Maintenance	29,146
Walpole	1,000.00	1,000.00	1,000.00	Maintenance	53,750
Walpole	7,200.00	7,200.00	—	Bituminous concrete	2,950
Walpole	3,500.00	3,500.00	—	Penolithic pavement	1,000
Wellesley	5,500.00	5,500.00	—	Bituminous concrete	5,000
Westwood	1,500.00	1,500.00	1,500.00	Maintenance	sq. yds. 21,331
Westwood	10,500.00	10,500.00	—	Bituminous macadam	3,800
Westwood	300.00	600.00	300.00	Repairs	165
Weymouth	14,000.00	14,000.00	—	Bituminous concrete	2,882

COUNTIES AND TOWNS	CONTRIBUTIONS		County	TYPE OF ROAD OR NATURE OF WORK	LENGTH CON- TRACTED FOR (FEET)
	State	Town			
Wrentham . . .	1,000.00	1,000.00	1,000.00	Maintenance . . .	24,974
Wrentham . . .	1,000.00	1,000.00	—	Gravel and tar . . .	550
Wrentham . . .	2,800.00	2,800.00	—	Gravel and tar . . .	1,700
<i>Plymouth County</i>					
Abington . . .	\$7,000.00	\$4,500.00	\$3,500.00	Bituminous concrete . . .	1,695
Brockton . . .	6,300.00	6,300.00	—	Bituminous macadam . . .	5,800
Brockton . . .	21,500.00	21,500.00	—	Bituminous macadam . . .	4,861
Carver . . .	2,800.00	1,400.00	1,400.00	Gravel mixed in place with tar . . .	4,100
Halifax . . .	1,700.00	850.00	850.00	Gravel and tar . . .	3,300
Hanover . . .	4,200.00	2,100.00	2,100.00	Gravel and tar . . .	1,750
Hanson . . .	7,000.00	3,500.00	3,500.00	Concrete extensions to stone arch bridge . . .	—
Kingston . . .	5,600.00	2,800.00	2,800.00	Bituminous concrete . . .	1,450
Lakeville . . .	1,400.00	700.00	700.00	Gravel mixed in place with tar . . .	4,300
Marion . . .	3,000.00	1,500.00	1,500.00	Gravel mixed in place with emulsion . . .	1,600
Marshfield . . .	7,000.00	3,500.00	3,500.00	Penolithic pavement . . .	850
Mattapoisett . . .	3,500.00	1,750.00	1,750.00	Bituminous macadam . . .	2,500
Pembroke . . .	3,500.00	1,750.00	1,750.00	Bituminous concrete . . .	950
Pembroke . . .	1,000.00	750.00	500.00	Gravel mixed in place with tar . . .	5,050
Plymouth . . .	5,300.00	2,650.00	2,650.00	Gravel mixed in place with tar . . .	2,450
Plympton . . .	7,000.00	350.00	3,150.00	Gravel mixed in place with tar . . .	6,250
Rochester . . .	2,800.00	1,400.00	1,400.00	Gravel and tar . . .	4,600
Rochester . . .	1,500.00	750.00	750.00	Gravel mixed in place with cut-back asphalt . . .	2,500
Rockland . . .	7,000.00	3,500.00	3,500.00	Bituminous concrete . . .	1,500
Wareham . . .	5,600.00	2,800.00	2,800.00	Bituminous concrete . . .	1,545
West Bridgewater . . .	1,400.00	700.00	700.00	Drainage . . .	—
West Bridgewater . . .	3,500.00	1,750.00	1,750.00	Gravel and tar . . .	750
Whitman . . .	14,000.00	7,000.00	7,000.00	Bituminous concrete . . .	1,000
Whitman . . .	6,000.00	—	3,000.00	Bituminous concrete . . .	3,080
Whitman . . .	6,000.00	—	3,000.00	Bituminous concrete . . .	880
<i>Worcester County</i>					
Ashburnham . . .	\$1,400.00	\$1,000.00	\$2,000.00	Gravel mixed in place with tar . . .	1,250
Ashburnham . . .	1,500.00	1,000.00	1,750.00	Maintenance . . .	34,950
Athol . . .	1,500.00	1,500.00	1,500.00	Maintenance . . .	44,565
Athol . . .	8,400.00	6,000.00	6,000.00	Bituminous concrete . . .	1,475
Athol . . .	2,800.00	2,000.00	2,000.00	Gravel mixed in place with tar . . .	3,550
Auburn . . .	300.00	300.00	300.00	Maintenance . . .	13,140
Auburn . . .	7,000.00	5,000.00	5,000.00	Broken stone mixed in place with cut-back asphalt . . .	3,533
Barre . . .	1,000.00	1,000.00	1,000.00	Maintenance . . .	42,800
Barre . . .	7,000.00	5,000.00	5,000.00	Bridge and approaches . . .	—
Berlin . . .	1,800.00	1,000.00	2,500.00	Gravel mixed in place with tar . . .	800
Berlin . . .	1,400.00	1,000.00	1,000.00	Maintenance . . .	53,130
Blackstone . . .	1,000.00	1,000.00	1,000.00	Gravel mixed in place with tar . . .	1,494
Blackstone . . .	2,800.00	2,000.00	500.00	Maintenance . . .	47,892
Blackstone . . .	4,200.00	3,000.00	3,000.00	Grading and drainage . . .	2,550
Bolton . . .	1,500.00	1,000.00	1,500.00	Trap rock mixed in place with tar . . .	6,040
Bolton . . .	2,100.00	1,050.00	1,050.00	Maintenance . . .	47,448
Boylston . . .	1,400.00	700.00	1,400.00	Grading . . .	1,800
Brookfield . . .	1,400.00	700.00	1,400.00	Maintenance . . .	51,054
Brookfield . . .	1,500.00	750.00	750.00	Maintenance . . .	26,280
Brookfield . . .	1,400.00	1,000.00	1,000.00	Repairs . . .	1,400
Charlton . . .	1,500.00	800.00	1,600.00	Gravel mixed in place with tar . . .	312
Charlton . . .	2,300.00	1,500.00	1,800.00	Bituminous concrete . . .	88
Charlton . . .	1,600.00	1,000.00	1,300.00	Bituminous macadam . . .	125
Clinton . . .	300.00	300.00	300.00	Maintenance . . .	44,750
Clinton . . .	8,400.00	6,000.00	6,000.00	Gravel mixed in place with tar . . .	1,900
Dana . . .	1,800.00	1,000.00	2,500.00	Grading . . .	4,849
Dana . . .	1,500.00	500.00	1,500.00	Maintenance . . .	17,400
Douglas . . .	500.00	500.00	500.00	Bituminous macadam . . .	3,676
Douglas . . .	5,000.00	2,500.00	2,500.00	Maintenance . . .	75,140
Dudley . . .	300.00	300.00	300.00	Gravel and tar . . .	2,050
Dudley . . .	4,200.00	2,100.00	2,100.00	Maintenance . . .	24,000
Dudley . . .	300.00	300.00	300.00	Gravel mixed in place with asphalt . . .	1,485
Dudley . . .	4,200.00	2,100.00	2,100.00	Grading . . .	1,200
Dudley . . .	300.00	300.00	300.00	Maintenance . . .	27,410
Dudley . . .	4,200.00	2,100.00	2,100.00	Gravel mixed in place with asphalt . . .	3,000

COUNTIES AND TOWNS	CONTRIBUTIONS			TYPE OF ROAD OR NATURE OF WORK	LENGTH CON- TRACTED FOR (FEET)
	State	Town	County		
Dudley	1,400.00	1,400.00	1,400.00	Gravel mixed in place with tar	200 24,935
East Brookfield	600.00	600.00	600.00	Maintenance	—
East Brookfield	2,100.00	1,400.00	1,400.00	Gravel mixed in place with tar	2,200
East Brookfield	1,800.00	1,250.00	1,250.00	Bridge and approaches	—
Fitchburg	17,500.00	12,500.00	12,500.00	Bituminous macadam	2,695
Gardner	400.00	400.00	400.00	Maintenance	13,250
Gardner	7,000.00	3,500.00	3,500.00	Bituminous macadam	3,150
Grafton	2,800.00	3,000.00	2,000.00	Broken stone and asphalt emulsion	1,300
Grafton	1,300.00	650.00	650.00	Bituminous macadam	183
Hardwick	1,000.00	1,300.00	1,000.00	Maintenance	52,910
Harvard	1,000.00	1,000.00	1,000.00	Maintenance	46,800
Harvard	5,000.00	1,100.00	4,000.00	Grading and drainage	2,500
Holden	1,000.00	1,000.00	1,000.00	Maintenance	48,998
Holden	5,700.00	2,850.00	2,850.00	Bridge and approaches	—
Holden	3,500.00	2,500.00	2,500.00	Gravel mixed in place with tar	2,300
Hubbardston	1,700.00	1,200.00	2,400.00	Maintenance	66,220
Hubbardston	2,800.00	1,000.00	4,000.00	Gravel mixed in place with tar	2,246
Leicester	900.00	1,200.00	1,200.00	Maintenance	49,700
Leicester	4,900.00	5,000.00	5,000.00	Broken stone mixed in place with asphalt	2,350
Lunenburg	1,500.00	1,500.00	1,500.00	Maintenance	51,060
Lunenburg	2,100.00	1,500.00	1,500.00	Gravel mixed in place with tar	1,550
Mendon	1,000.00	1,000.00	1,000.00	Maintenance	39,684
Mendon	1,600.00	1,100.00	1,100.00	Gravel mixed in place with tar	1,710
Mendon	1,400.00	1,000.00	1,000.00	Gravel mixed in place with tar	2,400
Milford	500.00	500.00	500.00	Maintenance	22,940
Milford	10,500.00	8,250.00	8,250.00	Bituminous concrete	3,725
Millbury	600.00	600.00	600.00	Maintenance	29,729
Millbury	6,423.48	4,588.26	4,588.26	Bituminous concrete	1,600
Millbury	576.52	1,411.74	1,411.74	Grading	1,750
Millville	1,500.00	—	1,500.00	Maintenance	16,211
New Braintree	1,000.00	500.00	1,000.00	Maintenance	51,063
New Braintree	1,400.00	1,000.00	1,000.00	Gravel mixed in place with tar	450
North Brookfield	4,600.00	2,900.00	2,900.00	Gravel mixed in place with tar	2,650
North Brookfield	500.00	500.00	500.00	Maintenance	30,815
Northborough	300.00	300.00	300.00	Maintenance	18,152
Northbridge	500.00	500.00	500.00	Maintenance	35,535
Northbridge	3,500.00	2,500.00	2,500.00	Gravel mixed in place with asphaltic oil	2,050
Oakham	1,300.00	1,100.00	1,300.00	Grading	1,050
Oakham	3,500.00	2,000.00	2,000.00	Maintenance	44,450
Oxford	1,000.00	1,000.00	1,000.00	Gravel mixed in place with asphalt	2,400
Oxford	1,500.00	500.00	500.00	Repairs and oiling	12,713
Paxton	1,500.00	800.00	1,600.00	Bridge repairs	—
Paxton	3,200.00	1,500.00	3,000.00	Maintenance	41,100
Petersham	1,500.00	1,500.00	1,500.00	Gravel mixed in place with tar	3,400
Phillipston	1,500.00	1,000.00	1,500.00	Maintenance	39,813
Phillipston	2,100.00	1,000.00	2,000.00	Maintenance	49,154
Princeton	1,600.00	1,500.00	2,250.00	Gravel mixed in place with tar	1,450
Princeton	2,800.00	1,400.00	1,400.00	Maintenance	95,120
Princeton	2,800.00	1,400.00	1,400.00	Gravel mixed in place with tar	1,750
Royalston	1,900.00	1,300.00	2,300.00	Gravel mixed in place with tar	2,900
Royalston	1,250.00	500.00	750.00	Oiling	850
Royalston	1,250.00	500.00	750.00	Maintenance	53,000
Rutland	1,500.00	1,600.00	2,200.00	Gravel and tar	1,650
Rutland	2,100.00	1,500.00	1,500.00	Oiling	1,300
Rutland	2,100.00	1,500.00	1,500.00	Repairs and drainage	21,200
Rutland	2,100.00	1,500.00	1,500.00	Maintenance	60,300
Shrewsbury	1,500.00	1,500.00	1,500.00	Gravel mixed in place with tar	1,750
Southborough	600.00	600.00	600.00	Gravel mixed in place with tar	2,100
Southborough	2,100.00	1,000.00	2,000.00	Maintenance	35,594
Southbridge	750.00	750.00	750.00	Maintenance	25,460
Southbridge	20,000.00	10,000.00	10,000.00	Broken stone and asphalt emulsion	1,009
Spencer	1,000.00	1,000.00	1,000.00	Maintenance	27,400
Spencer	3,500.00	2,500.00	2,500.00	Bridge	—
Sterling	2,000.00	2,000.00	2,900.00	Maintenance	44,000
				Bituminous macadam	730
				Maintenance	93,661

COUNTIES AND TOWNS	CONTRIBUTIONS		County	TYPE OF ROAD OR NATURE OF WORK	LENGTH CON- TRACTED FOR (FEET)
	State	Town			
Sterling	1,900.00	1,000.00	1,750.00	Gravel mixed in place with asphaltic oil	1,450
Sterling	3,900.00	2,000.00	2,000.00	Broken stone mixed in place with asphalt	1,300
Sturbridge	350.00	350.00	350.00	Gravel and asphalt	770
Sturbridge	2,500.00	1,200.00	2,400.00	Maintenance	18,150
Sutton	1,000.00	1,000.00	1,000.00	Gravel mixed in place with tar	2,300
Sutton	2,800.00	2,000.00	2,000.00	Maintenance	50,892
Sutton	2,800.00	2,000.00	2,000.00	Gravel mixed in place with asphalt	1,600
Templeton	1,500.00	1,500.00	1,500.00	Gravel mixed in place with asphalt	3,750
Templeton	4,200.00	3,000.00	3,000.00	Maintenance	45,460
Upton	700.00	700.00	700.00	Gravel mixed in place with asphalt	4,200
Upton	2,800.00	2,000.00	2,000.00	Maintenance	25,450
Uxbridge	1,000.00	1,000.00	1,000.00	Gravel mixed in place with tar	1,450
Uxbridge	5,600.00	4,000.00	4,000.00	Maintenance	45,510
Uxbridge	5,600.00	4,000.00	4,000.00	Broken stone mixed in place with asphalt	2,800
Warren	500.00	500.00	500.00	Bituminous concrete	3,700
Webster	4,900.00	3,500.00	3,500.00	Maintenance	17,100
West Boylston	1,050.00	840.00	1,500.00	Bituminous macadam	2,600
West Boylston	1,980.00	1,120.00	1,300.00	Maintenance	51,400
West Boylston	1,800.00	1,000.00	1,500.00	Bituminous macadam	2,000
West Brookfield	1,000.00	1,000.00	1,000.00	Gravel mixed in place with tar	1,150
West Brookfield	7,000.00	2,000.00	8,000.00	Maintenance	74,205
Westborough	900.00	900.00	900.00	Bituminous concrete	2,449
Westborough	8,900.00	5,950.00	5,950.00	Maintenance	51,700
Westminster	1,400.00	1,000.00	2,000.00	Bituminous macadam	4,030
Westminster	3,500.00	2,000.00	3,000.00	Maintenance	66,474
Winchendon	500.00	500.00	500.00	Gravel mixed in place with asphalt	1,900
Worcester	32,000.00	16,000.00	16,000.00	Maintenance	19,528
Worcester	23,000.00	19,000.00	19,000.00	Bituminous concrete	5,985
Worcester				Bituminous concrete	3,813

EXPENDITURES FOR CONSTRUCTION OF TOWN AND COUNTY WAYS

(Section 34, Chapter 90, General Laws, Ter Ed.)

The expenditures during the year in various Counties were:

Barnstable	\$140,377.56	Hampden	198,904.62
Berkshire	190,838.69	Hampshire	135,364.20
Bristol	132,894.97	Middlesex	562,351.88
Dukes	7,715.58	Norfolk	89,960.30
Essex	325,582.64	Plymouth	247,483.63
Franklin	165,007.34	Worcester	511,954.18

Total	\$2,708,435.59
---------------	----------------

Details of the foregoing expenditures follow:

Barnstable County.—Barnstable, \$16,684.15; Bourne, \$1,059.32; Brewster, \$2,129.45; Chatham, \$11,354.74; Falmouth, \$96,636.93; Harwich, \$3,612.15; Orleans, \$1,312.90; Wellfleet, \$4,715.57; Yarmouth, \$2,872.36.

Berkshire County.—Adams, \$6,527.09; Alford, \$1,073.76; Becket, \$6,323.46; Cheshire, \$2,808.53; Clarksburg, \$1,659.46; Dalton, \$15,788.65; Egremont, \$1,765.39; Florida, \$3,571.12; Gt. Barrington, \$9,317.51; Hancock, \$4,059.79; Hinsdale, \$1,711.31; Lanesborough, \$10,048.99; Lee, \$17,982.55; Lenox, \$8,228.96; Monterey, \$5,943.39; Mt. Washington, \$3,201.06; New Ashford, \$2,106.40; New Marlborough, \$5,463.87; No. Adams, \$13,516.67; Otis, \$5,575.72; Peru, \$1,790.32; Pittsfield, \$18,227.05; Richmond, \$2,229.36; Sandisfield, \$4,020.32; Savoy, \$1,914.91; Sheffield, \$5,350.33; Stockbridge, \$2,589.34; Tyringham, \$4,302.26; Washington, \$6,288.76; W. Stockbridge, \$6,412.23; Williamstown, \$9,252.91; Windsor, \$1,787.22.

Bristol County.—Acushnet, \$8,222.53; Attleboro, \$28,766.69; Berkley, \$3,421.92; Dighton, \$4,716.29; Easton, \$4,742.00; Fairhaven, \$989.37;

Fall River, \$26,634.12; Freetown, \$893.62; Mansfield, \$971.62; No. Attleborough, \$5,936.21; Norton, \$638.30; Raynham, \$638.30; Rehoboth, \$8,325.08; Taunton, \$16,186.16; Westport, \$21,812.76.

Dukes County.—Edgartown, \$2,419.59; Tisbury, \$3,700.23; W. Tisbury, \$1,595.76.

Essex County.—Amesbury, \$1,276.27; Andover, \$13,150.28; Beverly, \$8,387.29; Boxford, \$14,744.78; Danvers, \$13,074.35; Essex, \$1,276.60; Georgetown, \$1,276.60; Gloucester, \$7,310.80; Groveland, \$510.64; Hamilton, \$10,637.35; Haverhill, \$54,519.27; Ipswich, \$2,170.23; Lawrence, \$13,038.35; Lynn, \$20,652.15; Lynnfield, \$10,317.52; Manchester, \$6,351.11; Marblehead, \$21,357.64; Merrimac, \$1,914.88; Methuen, \$8,546.49; Middleton, \$43,987.45; Newbury, \$3,180.10; No. Andover, \$6,445.79; Peabody, \$13,609.17; Rockport, \$2,508.53; Rowley, \$3,702.16; Salisbury, \$7,895.65; Saugus, \$8,890.90; Swampscott, \$2,382.12; Topsfield, \$7,865.40; Wenham, \$8,655.07; W. Newbury, \$5,947.00.

Franklin County.—Ashfield, \$4,268.94; Buckland, \$6,893.66; Conway, \$2,680.86; Erving, \$1,787.25; Gill, \$3,444.28; Hawley, \$3,574.49; Heath, \$1,787.25; Leverett, \$1,787.25; Leyden, \$3,574.49; Monroe, \$1,787.25; Montague, \$6,441.67; New Salem, \$96,157.75; Northfield, \$989.37; Orange, \$1,353.20; Rowe, \$5,553.23; Shelburne, \$1,787.25; Sunderland, \$9,343.33; Warwick, \$6,083.02; Wendell, \$5,712.80.

Hampden County.—Agawam, \$15,652.51; Blandford, \$6,023.30; Brimfield, \$5,003.73; Chester, \$10,261.66; Chicopee, \$14,871.59; E. Longmeadow, \$10,117.09; Granville, \$5,968.12; Hampden, \$4,212.80; Holland, \$3,162.12; Longmeadow, \$1,150.97; Ludlow, \$5,339.95; Monson, \$5,402.60; Montgomery, \$6,373.97; Palmer, \$16,731.17; Russell, \$900.31; Southwick, \$5,361.74; Springfield, \$27,631.39; Tolland, \$3,115.31; Wales, \$4,625.29; W. Springfield, \$23,978.73; Westfield, \$15,063.94; Wilbraham, \$7,956.28.

Hampshire County.—Amherst, \$9,109.28; Belchertown, \$14,289.87; Chesterfield, \$23,201.92; Cummington, \$4,228.82; Easthampton, \$4,695.80; Enfield, \$633.09; Goshen, \$3,108.53; Granby, \$3,574.47; Greenwich, \$1,276.60; Hadley, \$2,427.22; Huntington, \$6,861.75; Middlefield, \$15,842.34; Northampton, \$10,927.34; Pelham, \$13,383.73; Plainfield, \$4,037.72; South Hadley, \$6,462.78; Southampton, \$1,276.60; Ware, \$4,468.11; Westhampton, \$638.30; Williamsburg, \$315.41; Worthington, \$4,604.52.

Middlesex County.—Acton, \$5,439.22; Arlington, \$4,205.65; Ashby, \$2,023.39; Ashland, \$3,510.57; Ayer, \$3,702.00; Bedford, \$12,320.36; Belmont, \$5,412.67; Billerica, \$21,383.42; Boxborough, \$1,973.55; Burlington, \$12,981.48; Cambridge, \$43,451.75; Carlisle, \$4,531.95; Chelmsford, \$4,361.97; Concord, \$3,585.13; Dracut, \$8,179.47; Dunstable, \$4,928.18; Framingham, \$21,350.76; Groton, \$15,497.08; Holliston, \$10,997.85; Hopkinton, \$5,067.32; Hudson, \$8,650.93; Lexington, \$8,203.85; Lincoln, \$4,884.95; Littleton, \$8,981.50; Malden, \$37,031.39; Marlborough, \$10,036.67; Maynard, \$7,230.97; Medford, \$16,921.28; Natick, \$19,828.10; Newton, \$28,685.53; No. Reading, \$12,660.70; Pepperell, \$4,326.22; Reading, \$14,038.54; Sherborn, \$4,209.53; Shirley, \$14,819.05; Stoneham, \$8,457.23; Stow, \$3,403.10; Sudbury, \$6,459.15; Tewksbury, \$7,457.44; Townsend, \$6,774.71; Tyngsborough, \$8,136.26; Wakefield, \$18,448.27; Waltham, \$11,870.25; Watertown, \$15,771.06; Wayland, \$11,010.54; Westford, \$8,285.30; Wilmington, \$5,360.86; Winchester, \$12,075.24; Woburn, \$43,411.49.

Norfolk County.—Avon, \$1,404.27; Bellingham, \$4,663.08; Brookline, \$7,291.58; Canton, \$370.22; Dedham, \$3,524.63; Dover, \$765.96; Foxborough, \$3,383.00; Franklin, \$10,327.34; Medway, \$5,234.07; Millis, \$2,042.57; Milton, \$351.07; Norfolk, \$1,914.78; Norwood, \$1,827.41; Plainville, \$553.19; Randolph, \$991.15; Sharon, \$1,148.94; Stoughton, \$201.48; Walpole, \$2,454.04; Wellesley, \$4,468.11; Westwood, \$4,395.73; Weymouth, \$21,222.07; Wrentham, \$11,425.61.

Plymouth County—Abington, \$10,687.92; Bridgewater, \$2,872.36; Brockton, \$11,586.88; Carver, \$3,574.39; Halifax, \$2,074.48; Hanover, \$3,829.82; Hanson, \$4,876.76; Hull, \$107,505.78; Kingston, \$5,276.38; Lakeville, \$1,787.25; Marion, \$3,995.98; Marshfield, \$12,725.49; Mattapoisett, \$6,300.38; Pembroke, \$4,212.79; Plymouth, \$6,383.02; Plympton, \$8,501.70; Rochester, \$4,595.78; Rockland, \$8,018.92; W. Bridgewater, \$3,106.68; Whitman, \$35,561.87.

Worcester County—Ashburnham, \$901.70; Athol, \$9,842.78; Auburn, \$10,143.18; Barre, \$8,940.56; Berlin, \$6,456.40; Blackstone, \$11,564.96; Bolton, \$5,626.52; Boylston, \$3,446.83; Brookfield, \$9,646.72; Charlton, \$5,331.88; Clinton, \$18,162.02; Dana, \$4,307.63; Douglas, \$1,876.20; Dudley, \$9,856.68; E. Brookfield, \$13,617.23; Fitchburg, \$14,530.72; Gardner, \$4,319.93; Grafton, \$6,439.36; Hardwick, \$6,223.19; Harvard, \$10,173.40; Holden, \$3,806.09; Hubbardston, \$4,684.09; Leicester, \$2,713.21; Leominster, \$4,739.58; Lunenburg, \$3,015.17; Mendon, \$7,118.67; Milford, \$28,927.69; Millbury, \$9,564.93; New Braintree, \$2,322.10; No. Brookfield, \$12,948.91; Northborough, \$287.07; Northbridge, \$11,169.28; Oakham, \$2,999.88; Paxton, \$5,043.79; Petersham, \$34,610.87; Phillips-ton, \$580.75; Princeton, \$10,576.41; Royalston, \$5,816.45; Rutland, \$8,379.65; Shrewsbury, \$1,037.88; Southborough, \$3,045.62; Southbridge, \$17,568.71; Spencer, \$12,135.91; Sterling, \$7,687.75; Sturbridge, \$3,948.54; Sutton, \$12,300.52; Templeton, \$9,585.53; Upton, \$3,906.40; Uxbridge, \$14,245.32; Warren, \$471.51; Webster, \$10,485.49; W. Boylston, \$10,834.11; W. Brookfield, \$10,769.21; Westborough, \$765.90; Westminster, \$10,280.68; Winchendon, \$861.71; Worcester, \$61,310.37.

REPAIR AND IMPROVEMENT OF PUBLIC WAYS, EXCLUSIVE OF STATE HIGHWAYS, IN CERTAIN TOWNS

(Sections 26 to 29 and 31 of Chapter 81 of the General Laws, (Ter. Ed.), as amended with reference to Section 26 by Chapter 366 of the Acts of 1934)

During the year the Department contracted for work to be done in the towns named in the following table, which also shows the road mileage in the towns and the allotments or contributions by the State and towns:—

Counties and Towns	Miles of Road	State	Allotment Town
<i>Barnstable County</i>			
Brewster	40	\$6,000 00	\$5,000 00
Dennis	78	11,700 00	7,800 00
Eastham	42	6,300 00	3,150 00
Mashpee	27	4,050 00	2,025 00
Sandwich	67	10,050 00	6,700 00
Truro	30	4,500 00	3,750 00
Wellfleet	36	5,400 00	4,500 00
<i>Berkshire County</i>			
Alford	19	\$2,850 00	\$760 00
Becket	58	8,700 00	2,320 00
Cheshire	42	6,300 00	3,150 00
Clarksburg	14	2,100 00	2,100 00
Egremont	32	4,800 00	2,400 00
Florida	43	6,450 00	3,225 00
Hancock	30	4,500 00	1,200 00
Hinsdale	35	5,250 00	2,625 00
Lanesborough	43	6,450 00	3,225 00
Monterey	51	7,650 00	2,040 00
Mt. Washington	20	3,000 00	500 00
New Ashford	11	1,650 00	275 00

Counties and Towns	Miles of Road	Allotment	
		State	Town
New Marlborough	85	12,750 00	3,400 00
Otis	41	6,150 00	1,640 00
Peru'	37	5,550 00	555 00
Richmond	32	4,800 00	2,400 00
Sandisfield	79	11,850 00	1,185 00
Savoy	56	8,400 00	840 00
Sheffield	78	11,700 00	3,900 00
Tyringham	25	3,750 00	1,250 00
Washington	51	7,650 00	765 00
West Stockbridge	36	5,400 00	3,600 00
Windsor	65	9,750 00	975 00
<i>Bristol County</i>			
Berkley	42	\$6,300 00	\$2,100 00
Freetown	47	7,050 00	3,525 00
Norton	57	8,550 00	5,700 00
Raynham	45	6,750 00	4,500 00
Rehoboth	109	16,350 00	8,175 00
Swansea	61	9,105 00	9,150 00
<i>Dukes County</i>			
Chilmark	14	\$2,100 00	\$1,750 00
West Tisbury	13	1,950 00	1,950 00
<i>Essex County</i>			
Boxford	53	\$7,950 00	3,975 00
Georgetown	35	5,250 00	4,375 00
Groveland	30	4,500 00	4,500 00
Merrimac	31	4,650 00	3,875 00
Middleton	30	4,500 00	4,500 00
Newbury	38	5,700 00	4,750 00
Rowley	31	4,650 00	3,875 00
West Newbury	37	5,550 00	3,700 00
<i>Franklin County</i>			
Ashfield	80	\$12,000 00	\$3,200 00
Bernardston	40	6,000 00	3,000 00
Buckland	45	6,750 00	6,750 00
Charlemont	49	7,350 00	3,675 00
Colrain	85	12,750 00	4,250 00
Conway	72	10,800 00	2,880 00
Deerfield	75	11,250 00	9,375 00
Gill	34	5,100 00	2,550 00
Hawley	49	7,350 00	735 00
Heath	53	7,950 00	795 00
Leverett	38	5,700 00	1,520 00
Leyden	39	5,850 00	585 00
Monroe	18	2,700 00	2,700 00
New Salem	65	9,750 00	975 00
Northfield	66	9,900 00	4,950 00
Rowe	40	6,000 00	1,600 00
Shelburne	49	7,350 00	6,125 00
Shutesbury	38	5,700 00	950 00
Sunderland	34	5,100 00	2,550 00
Warwick	56	8,400 00	840 00
Wendell	48	7,200 00	2,400 00
Whately	40	6,000 00	3,000 00

Counties and Towns	Miles of Road	State Allotment	Town
<i>Hampden County</i>			
Blandford	75	\$11,250 00	\$1,875 00
Brimfield	60	9,000 00	2,400 00
Chester	68	10,200 00	3,400 00
Granville	73	10,950 00	5,475 00
Hampden	34	5,100 00	2,550 00
Holland	32	4,800 00	480 00
Monson	101	15,150 00	10,100 00
Montgomery	27	4,050 00	675 00
Southwick	50	7,500 00	5,000 00
Tolland	40	6,000 00	600 00
Wales	25	3,750 00	1,000 00
Wilbraham	44	6,600 00	6,600 00
<i>Hampshire County</i>			
Belchertown	109	\$16,350 00	\$4,360 00
Chesterfield	59	8,850 00	1,475 00
Cummington	49	7,350 00	1,225 00
Enfield	35	5,250 00	1,400 00
Goshen	29	4,350 00	725 00
Granby	48	7,200 00	2,400 00
Greenwich	39	5,850 00	1,560 00
Hadley	58	8,700 00	7,250 00
Hatfield	46	6,900 00	5,750 00
Huntington	41	6,150 00	3,075 00
Middlefield	41	6,150 00	615 00
Pelham	31	4,650 00	2,325 00
Plainfield	49	7,350 00	735 00
Prescott	39	5,850 00	585 00
Southampton	56	8,400 00	2,240 00
Westhampton	50	7,500 00	750 00
Williamsburg	44	6,600 00	3,300 00
Worthington	68	10,200 00	1,700 00
<i>Middlesex County</i>			
Acton	59	\$8,850 00	8,850 00
Ashby	56	8,400 00	2,800 00
Ashland	38	5,700 00	5,700 00
Bedford	36	5,400 00	5,400 00
Boxborough	23	3,450 00	920 00
Burlington	38	5,700 00	5,700 00
Carlisle	42	6,300 00	3,150 00
Dracut	63	9,450 00	9,450 00
Dunstable	37	5,550 00	925 00
Holliston	50	7,500 00	7,500 00
Hopkinton	66	9,900 00	6,600 00
Littleton	42	6,300 00	6,300 00
North Reading	35	5,250 00	5,250 00
Pepperell	69	10,350 00	6,900 00
Sherborn	43	6,450 00	5,375 00
Shirley	46	6,900 00	4,600 00
Stow	43	6,450 00	3,225 00
Sudbury	64	9,600 00	6,400 00
Tewksbury	60	9,000 00	9,000 00
Townsend	70	10,500 00	7,000 00
Tyngsborough	41	6,150 00	4,100 00
Westford	85	12,750 00	10,625 00

Counties and Towns	Miles of Road	Allotment	
		State	Town
<i>Norfolk County</i>			
Bellingham	44	\$6,600 00	\$6,600 00
Medfield	41	6,150 00	6,150 00
Medway	45	6,750 00	6,750 00
Millis	42	6,300 00	6,300 00
Norfolk	42	6,300 00	4,200 00
Plainville	32	4,800 00	4,000 00
<i>Plymouth County</i>			
Carver	67	\$10,050 00	\$6,700 00
Halifax	34	5,100 00	3,400 00
Hanson	36	5,400 00	5,400 00
Lakeville	43	6,450 00	3,225 00
Norwell	47	7,050 00	4,700 00
Pembroke	49	7,350 00	6,125 00
Plympton	30	4,500 00	2,250 00
Rochester	50	7,500 00	3,750 00
<i>Worcester County</i>			
Ashburnham	75	\$11,250 00	\$5,625 00
Barre	110	16,500 00	8,250 00
Berlin	39	5,850 00	2,925 00
Bolton	53	7,950 00	2,650 00
Boylston	40	6,000 00	3,000 00
Brookfield	37	5,550 00	3,700 00
Charlton	110	16,500 00	4,400 00
Dana	43	6,450 00	1,075 00
Douglas	70	10,500 00	5,250 00
Dudley	63	9,450 00	7,875 00
East Brookfield	19	2,850 00	2,375 00
Grafton	63	10,200 00	10,200 00
Hardwick	96	14,400 00	4,800 00
Harvard	56	8,400 00	5,600 00
Holden	77	11,550 00	7,700 00
Hubbardston	75	11,250 00	1,875 00
Lancaster	58	8,700 00	7,250 00
Leicester	66	9,900 00	8,250 00
Lunenburg	66	9,900 00	4,950 00
Mendon	36	5,400 00	3,600 00
Millville	16	2,400 00	2,400 00
New Braintree	49	7,350 00	1,225 00
North Brookfield	69	10,350 00	6,900 00
Northborough	47	7,050 00	5,875 00
Oakham	45	6,750 00	1,125 00
Oxford	66	9,900 00	8,250 00
Paxton	29	4,350 00	2,175 00
Petersham	70	10,500 00	3,500 00
Phillipston	41	6,150 00	1,025 00
Princeton	73	10,950 00	2,920 00
Royalston	67	10,050 00	1,675 00
Rutland	68	10,200 00	3,400 00
Southborough	46	6,900 00	6,900 00
Spencer	101	15,150 00	12,625 00
Sterling	73	10,950 00	5,475 00
Sturbridge	70	10,500 00	3,500 00
Sutton	84	12,600 00	4,200 00
Templeton	63	9,450 00	7,875 00

Counties and Towns	Miles of		Allotment	
	Road	State	Town	
Upton	60	9,000 00	4,500 00	
Warren	71	10,650 00	7,100 00	
West Boylston	37	5,550 00	5,550 00	
West Brookfield	53	7,950 00	3,975 00	
Westborough	62	9,300 00	9,300 00	
Westminster	78	11,700 00	3,900 00	

EXPENDITURES FOR REPAIR AND IMPROVEMENT OF PUBLIC WAYS

The expenditures during the year in various counties were:—

Barnstable	\$51,722.70	Hampden	\$100,179.29
Berkshire	158,362.43	Hampshire	142,551.89
Bristol	32,582.06	Middlesex	165,347.77
Dukes	4,380.20	Norfolk	23,486.58
Essex	40,639.86	Plymouth	60,722.24
Franklin	179,189.74	Worcester	428,284.91
Total			\$1,387,449.67

Details of the foregoing expenditures follow:—

Barnstable County.—Brewster, \$6,651.01; Dennis, \$12,268.86; Eastham, \$6,681.15; Mashpee, \$4,427.55; Sandwich, \$11,397.12; Truro, \$4,840.58; Wellfleet, \$5,456.43.

Berkshire County.—Alford, \$3,221.77; Becket, \$9,446.40; Cheshire, \$7,260.37; Clarksburg, \$1,857.59; Egremont, \$5,324.58; Florida, \$6,065.72; Hancock, \$5,279.53; Hinsdale, \$4,179.30; Lanesborough, \$7,406.01; Monterey, \$9,344.27; Mt. Washington, \$3,456.59; New Ashford, \$1,896.42; New Marlborough, \$12,625.62; Otis, \$7,337.15; Peru, \$5,635.02; Richmond, \$5,258.49; Sandisfield, \$11,362.47; Savoy, \$9,085.41; Sheffield, \$12,407.75; Tyringham, \$3,629.00; Washington, \$9,643.32; West Stockbridge, \$5,818.02; Windsor, \$10,821.63.

Bristol County.—Berkley, \$2,528.03; Freetown, \$5,048.16; Norton, \$9,201.64; Raynham, \$3,238.33; Rehoboth, \$9,373.84; Swansea, \$3,192.06.

Dukes County.—Chilmark, \$2,227.77; West Tisbury, \$2,152.43.

Essex County.—Boxford, \$8,167.87; Georgetown, \$4,609.09; Groveland, \$3,306.79; Merrimac, \$2,889.97; Middleton, \$4,765.19; Newbury, \$6,775.08; Rowley, \$4,318.25; West Newbury, \$5,807.62.

Franklin County.—Ashfield, \$12,995.30; Bernardston, \$6,376.58; Buckland, \$7,425.87; Charlemont, \$7,937.09; Colrain, \$13,694.84; Conway, \$11,246.45; Deerfield, \$11,246.45; Gill, \$5,569.42; Hawley, \$7,883.28; Heath, \$7,721.85; Leverett, \$6,376.58; Leyden, \$6,295.86; Monroe, \$2,556.01; New Salem, \$10,842.87; Northfield, \$10,250.87; Rowe, \$6,457.29; Shelburne, \$7,937.09; Shutesbury, \$6,161.29; Sunderland, \$6,457.29; Warwick, \$9,659.04; Wendell, \$7,641.13; Whately, \$6,457.29.

Hampden County.—Blandford, \$12,543.94; Brimfield, \$9,830.83; Chester, \$11,917.74; Granville, \$11,327.17; Hampden, \$5,381.08; Holland, \$5,103.25; Monson, \$15,794.91; Montgomery, \$4,697.68; Southwick, \$7,775.66; Tolland, \$5,135.06; Wales, \$3,999.43; Wilbraham, \$6,672.54.

Hampshire County.—Belchertown, \$17,488.50; Chesterfield, \$9,524.51; Cummington, \$7,425.89; Enfield, \$5,165.83; Goshen, \$4,547.01; Granby, \$7,694.94; Greenwich, \$5,677.04; Hadley, \$9,040.21; Hatfield, \$6,134.43; Huntington, \$7,175.44; Middlefield, \$7,410.55; Pelham, \$5,084.93; Plainfield, \$8,286.86; Prescott, \$6,349.67; Southampton, \$9,282.36; Westhampton, \$7,452.79; Williamsburg, \$7,049.21; Worthington, \$11,761.72.

Middlesex County.—Acton, \$8,986.40; Ashby, \$7,318.27; Ashland, \$5,219.65; Bedford, \$5,434.89; Boxborough, \$3,371.63; Burlington, \$5,757.75; Carlisle, \$6,663.95; Dracut, \$9,963.60; Dunstable, \$5,906.58; Holliston, \$7,587.32; Hopkinton, \$10,541.53; Littleton, \$6,320.56; No. Reading,

\$5,058.21; Pepperell, \$9,255.45; Sherborn, \$5,919.19; Shirley, \$7,183.35; Stow, \$5,703.95; Sudbury, \$10,070.15; Tewksbury, \$8,986.40; Townsend, \$10,008.81; Tyngsborough, \$6,581.27; Westford, \$13,503.86.

Norfolk County—Bellingham, \$4,390.96; Medfield, \$3,872.76; Medway, \$4,448.00; Millis, \$2,811.08; Norfolk, \$4,092.63; Plainville, \$3,871.15.

Plymouth County—Carver, \$12,511.76; Halifax, \$5,338.00; Hanson, \$5,811.92; Lakeville, \$6,668.77; Norwell, \$8,569.60; Pembroke, \$9,206.41; Plympton, \$4,622.51; Rochester, \$7,993.27.

Worcester County—Ashburnham, \$12,225.83; Barre, \$14,850.15; Berlin, \$5,652.72; Bolton, \$8,555.91; Boylston, \$6,497.52; Brookfield, \$5,828.26; Charlton, \$20,165.22; Dana, \$6,941.59; Douglas, \$11,074.26; Dudley, \$10,170.24; E. Brookfield, \$3,010.15; Grafton, \$7,869.36; Harvard, \$9,040.21; Hardwick, \$15,554.05; Holden, \$12,029.92; Hubbardston, \$10,876.37; Lancaster, \$8,406.48; Leicester, \$9,821.54; Lunenburg, \$11,087.40; Mendon, \$5,932.42; New Braintree, \$7,831.55; No. Brookfield, \$10,784.10; Northborough, \$8,201.56; Oakham, \$7,264.46; Oxford, \$10,338.41; Paxton, \$4,769.93; Petersham, \$9,890.62; Phillipston, \$6,425.66; Princeton, \$12,214.79; Royalston, \$10,715.87; Rutland, \$9,694.29; Southborough, \$7,645.53; Spencer, \$14,876.32; Sterling, \$10,954.38; Sturbridge, \$11,872.09; Sutton, \$13,642.92; Templeton, \$11,825.47; Upton, \$9,715.04; Warren, \$11,286.15; West Boylston, \$6,712.87; W. Brookfield, \$9,481.87; Westborough, \$10,008.80; Westminster, \$13,925.41; Millville, \$2,617.22.

THE REGULATION OF ADVERTISING SIGNS AND DEVICES WITHIN THE PUBLIC VIEW

(Sections 29-33, Chapter 93, General Laws as amended)

In accordance with the provisions of sections 29 to 33 inclusive, Chapter 93, General Laws (Ter. Ed.), providing for the control of billboards and other advertising devices on public ways or in private property within public view of any highway, public park or reservation, the Department adopted on January 24, 1924, certain new rules and regulations, superseding all former issues; and these have continued in force during the present year.

Applications, Licenses and Permits—Licenses were granted to 21 individuals and others to engage in the business of advertising in the Commonwealth by the use of outdoor signs.

Of 1,008 applications received for permits for the erection of advertising signs, 400 permits were granted for the year, while 2,600 applications, mostly injunction ones, are being held for definite action by this Department. In addition, over 230 individual advertisers were granted permits mainly consisting of a sole application. The greater part of these individual applications were obtained at the information desk maintained in the office of this Division for the purposes of educating and explaining the various provisions of the Law.

Of 3,634 renewal applications sent to those whose permits were to expire June 30, 1938, 3,351 were returned to the Department requesting renewal; and on account of the advertisers failing to renew, 283 permits were cancelled. The total number of permits in force November 30, 1937 was 3,751.

Receipts and Expenditures—The total receipts for the year ending November 30, 1937 were \$11,756.60 and the expenditures were \$27,252.06.

The Removal of Signs—The "Sign Patrol" consisting of small trucks completely equipped for the work, have removed 75,000 signs during the year in addition to 8,000 removed by other agents of the Department, under authority of Section 30A, Chapter 93, General Laws (Ter. Ed.), from within the highways and from private property.

Hearings—Hearing were given to officials of Barnstable County, Melrose, Somerville, and Mrs. Eleanor Barry of Cambridge.

REGISTRY OF MOTOR VEHICLES

The 1937 statistics show a small increase in the various classes of applications handled, as compared with the figures for 1936. As was the case in 1936, the reissues, each representing usually the registration of a new car in place of one previously registered, account for nearly 50% of the total increase in registrations.

Highway safety was accorded the usual important place in the activities of the Registrar, and, together with the motor vehicle inspectors, the police, both state and local, and the continued cooperation of the safety committees, the campaign for safer driving was vigorously enforced. The value of this work and other efforts having to do with highway safety was borne out by the fact that Massachusetts, as a state, was given the grand award in the 1937 National Traffic Safety Contest as being the safest state in the Union, so far as motor vehicle traffic was concerned. This activity is an annual contest sponsored by the National Safety Council.

Aside from enforcement work, equally important in contributing to the enviable safety record, is the policy of the Department of Public Works, in which the Registry serves, in the matter of highway construction. The policy of the department, under the present Commissioner, has been not only to build roads of the proper material, but to provide for sidewalks and curbs and roads with definite reservations in the center, separating the lines of traffic; the use of non-skid surfaces, installation of drainage facilities to quickly clear the highway of water, construction of grade separations at intersections and particularly highway and railroad intersections, the elimination of sharp corners, construction of hardened shoulders, installation of warning and traffic signals, painting of white lines, efficient snow removal, sanding icy surfaces during the winter months, and many other details which help the motorist trying to operate safely and without accidents.

The system of requiring persons 65 years of age or over to pass a test showing their ability to drive an automobile before their licenses were renewed, which was started on September 21, 1936, was abandoned on May 7, 1937, in anticipation of a law passed by the Legislature which barred this type of examination as being discriminatory. During the time this plan was in operation approximately 11,000 persons passed the test, 200 failed to pass the test, and 5,700 persons did not attempt to renew their licenses, presumably because of the required test.

The clerical work of the Registry was especially heavy in 1937 because again this year, for the second time, it became necessary to prepare new renewal license cards for about 30% of the operators renewing their licenses, due to the system in which these records are kept on a semi-permanent 12-year basis. A card in the license file for each operator provides for the posting to the renewal license record any suspensions of his license, changes of address, etc., over a 12-year period, at the end of which time a transcript of this record is transferred to a new card.

A few of the outstanding figures for the year as compared with those of the previous year are as follows:

	1936	1937
Motor vehicle certificates of registration issued	1,034,803	1,085,869
Compulsory insurance cancellation notices received	69,126	67,811
Licenses to operate issued	1,128,516	1,177,924
Examinations of applicants for licenses	98,997	109,729
Licenses and registrations revoked and suspended	52,705	58,358
Licenses revoked for driving under influence of liquor	6,486	6,829

Approximate total number of applications handled	2,253,405	2,354,600
Gross receipts from fees	\$6,765,751.86	\$6,945,602.30

REGISTRATIONS OF PASSENGER CARS, COMMERCIAL VEHICLES AND MOTOR CYCLES

The following registration figures show a 5.45% increase in passenger registrations and a 1.06% increase in commercial registrations over the previous year, while the motor cycle registrations showed a decrease of 10.6% for the same period.

	1904	1914	1924	1934	1936	1937
Passenger cars	3,772	77,246	580,489	831,853	915,010	964,956
Commercial vehicles	—	—	91,826	112,260	118,477	119,737
Motor cycles	489	8,161	10,778	1,375	1,316	1,176
Totals	4,261	85,407	683,093	945,488	1,034,803	1,085,869

EXAMINATIONS FOR LICENSES

The appointment system of examining new operators was continued during the year 1937. The following figures show that there was a general increase in the number of persons examined, comparable with the increase in registrations, at the 55 examining points in the State.

	1936	1937
Operators passed	86,334	96,760
Operators unfit	7,621	6,583
Restriction removal, passed	848	541
Restriction removal, unfit	119	44
"Competency", passed	544	422
"Competency", unfit	39	26
"Competency", (age 65) passed	4,731	6,288
"Competency", (age 65) unfit	106	91
Total examinations	100,342	110,755

BRANCH OFFICES

No new branch offices of the Registry were established, nor was the teletype machine installation extended to any of the branches not formerly so equipped.

The following figures give an approximate idea of the distribution of the volume of applications presented by the public.

APPROXIMATE DISTRIBUTION OF REGISTRATIONS, LICENSES, ETC.

	Registrations	First Licenses	License Renewals	Miscellaneous	Totals
Boston:					
Counter	194,000	—	174,000	95,000	463,000
Mail	168,000	—	401,000	11,700	580,700
Examination	—	22,000	—	1,500	23,500
Pittsfield	25,000	3,900	22,000	9,600	60,500
Springfield	51,000	7,800	57,400	23,500	139,700
Greenfield	12,500	1,900	11,600	5,400	31,400
Northampton	10,400	1,300	10,800	3,800	26,300
Worcester	56,000	8,200	56,100	26,000	146,300
Fitchburg	22,000	3,400	19,500	9,100	54,000
Framingham	22,600	3,600	18,500	9,500	54,200
Lawrence	22,000	3,800	27,400	7,500	60,700
Lowell	22,000	4,000	24,400	7,800	58,200
Fall River	24,600	5,700	25,100	9,700	65,100

P.D. 54					87
New Bedford	23,600	3,700	29,100	9,600	66,000
Lynn	45,500	7,500	48,600	19,500	121,100
Quincy	34,500	7,700	40,200	14,900	97,300
Brockton	40,000	4,100	35,700	17,800	97,600
Hyannis*	13,000	2,200	8,300	4,800	28,300
Haverhill	13,800	2,300	14,400	5,500	36,000
Holyoke	11,500	1,600	11,100	4,600	28,800
Malden	26,000	3,600	20,300	9,400	59,300
Waltham	23,500	5,100	19,500	8,500	56,600
	861,500 ²	103,400	1,075,000	314,700 ¹	2,354,600

* Includes Oak Bluffs and Nantucket.

¹ This figure includes approximately 222,000 number plate reissues.

² Does not include reissues (see Miscellaneous).

COMPULSORY MOTOR VEHICLE LIABILITY INSURANCE

The following figures show the volume of papers received and notices mailed in connection with the carrying out of the law regarding compulsory motor vehicle liability insurance.

	1936	1937
Causes for Cancellation of Policies:		
For non-payment of premiums	55,978	52,466
For other reasons	13,148	15,345
Total	69,126	67,811
Origin of requests for Cancellation of Policies:		
Insurance companies	46,660	45,779
Finance companies	22,466	22,032
Total	69,126	67,811
Disposition of applications for cancellation:		
Replacement certificates, adjusting cancellations	5,803	6,500
Reinstatements, adjusting cancellations	38,834	37,464
Sets of plates returned before effective date of cancellation	4,495	4,148
Revocations	19,994	19,699
Total	69,126	67,811
Return of Plates:		
Returned promptly after revocation	11,164	11,184
By Police	4,950	4,940
Not returned	3,880	3,575
Total revocations	19,994	19,699

PROPERTY DAMAGE

Under the provisions of Section 22A of Chapter 90, General Laws, the Registrar may, upon receipt of evidence satisfactory to him, suspend the license of any operator who has failed to satisfy a judgment rendered against him after sixty days in any case in which such operator is the defendant in an action brought to recover damages for injuries to property arising out of the use, operation or maintenance on the ways of the Commonwealth of a motor vehicle or trailer.

The following figures indicate the number of cases in which successful plaintiffs availed themselves of the additional facilities provided in the law for recovering damages and the action taken thereon:

	1936	1937
Complaints received	600	582
Releases received, no action being necessary	158	158
Licenses or right to operate suspended	442	424
Licenses or right to operate reinstated after suspension	255	235

AIRCRAFT

The following figures summarize the work of the Aviation Section for the fiscal year of 1937. In comparing them with the previous year, it will be noted that there is a considerable increase in the pilots and aircraft registered in the Commonwealth.

A definite decrease has been accomplished in the airplane accidents, which is very encouraging. This is contributed to very strict enforcement of the existing aviation statute.

Very favorable comments have been made on the airmarkers throughout the State and there is no doubt that they will be a great factor in preventing accidents.

Close co-operation has been maintained with the Federal Government and the aeronautical authorities of other states.

The following figures summarize the work of the Aviation Section:

	1936	1937
Pilots registered	938	1,260
Aircraft registered	216	304
Duplicates issued	4	9
Suspensions of pilots' and aircraft rights	21	167
Aircraft grounded	66	66
Reinstatements of rights and groundings	40	44
Regulations promulgated	2	1
Surveys of fields	22	50
Plans of buildings drawn for airmarking	178	178
Airmarkers completed under State promotion	176	61
Reports made by aircraft inspectors	2,086	2,550
Airplane accidents	46	29
	1936	1937
Fatal accidents	3	3
Personal injury accidents	9	5
No injury accidents	34	21
Persons killed in airplane accidents	4	3
Persons injured in airplane accidents	17	6
Ground accidents		7
Personal injury accidents	1	0
No injury accidents	5	12
Unknown accidents	1	0
Persons injured in ground accidents	1	0

37 airport plans have been furnished Federal Relief Agencies;

22 airport plans have been furnished the Department of Commerce;

5 special surveys have been made for the W.P.A.

PERIODIC INSPECTION OF MOTOR VEHICLE EQUIPMENT

In accordance with the provisions of General Laws, Chapter 90, Section 7A, the safety equipment of all motor vehicles registered in Massachusetts was inspected twice during the year, in the months of May and September. These were the tenth and eleventh inspections conducted under the periodic inspection law and the third year of semi-annual inspections. Semi-annual inspections have been found far more effective in securing safe vehicles on the highway than the single annual inspection.

As formerly, inspections were conducted at Official Inspection Stations designated by the Registrar. There was a noticeable improvement in the efficiency and honesty in which the work was done as evidenced by the very few complaints received from motorists, and the small number of stations which it was found necessary to cancel or suspend.

Approximately 850,000 pleasure cars, trucks, trailers and buses were inspected during each period. The results in per cent may be summarized as follows:

		May Per Cent	September Per Cent
O. K.		44	17*
Foot Brake	Defective	14	16
Emergency Brake	"	10	10
Lights	"	42	79
Horn	"	2	1.4
Muffler	"	1	1.2
Steering Gear	"	2	2.3
Windshield Cleaner	"	2	2
Number Plates	"	.4	.6

* Method of headlight adjustment changed, accounting for relatively small percentage of cars O. K., and large percentage with "defective" lights.

SCHOOL BUS INSPECTIONS

Chapter 271 of the Acts of 1932 require the inspection of all school buses operated in Massachusetts under contract with cities or towns, or owned by cities or towns. These inspections were conducted under the supervision of the Equipment Section five times during the year, during the first weeks of January, March, May, September and November. In each month, about 937 vehicles were submitted for inspection at Official Inspection Stations throughout the state. It is worthy of note that since the School Bus Act first became effective in September, 1932, not one serious school bus accident has occurred. This is undoubtedly due in large measure to the application of the provisions of the Act, which removed from the highway many antiquated, poorly conditioned buses and other vehicles which had previously been used for the transportation of school children.

BRAKES, LIGHTS AND MISCELLANEOUS

Approximately 50 men were regularly assigned to law enforcement on the road. Their efforts were directed principally to apprehending speeders, and testing brakes and other equipment. The activities of these inspectors, in conjunction with the two regular equipment inspections during the year, were undoubtedly reflected in the improvement of the accident situation throughout the state, which showed a decrease of 4% in fatalities despite a 5% increase in registration and a 7% increase in vehicle-miles operated. A summary of the work of these equipment and enforcement inspectors is as follows:

Reports of defective equipment	10,308
Reports of vehicles not inspected	6,626
Reports of improper operation	3,144
Light tags issued	57,689
Brake tags issued	22,706

Three thousand, eight hundred and fifty-six registrations were suspended because of defective equipment as follows:

Defective brakes	2,382
Defective lights	671
Miscellaneous defective equipment	803

In addition to handling the office work in connection with the above activities, the Equipment Office force handled 48,306 light tags issued by State and local police departments, and sent out notices to report, or warning notices, in 4,839 other cases of defective equipment, of which 1,094 were for defective windshields; 848 reports from inspectors for reference to the Registrar's Office; and 9,802 special reports of brake tests were made by inspectors and handled through the Equipment Office.

Headlamps, Tail Lamps and Reflex Reflectors

During the year, no new headlamps were approved, but approval was granted to 15 tail lamps and 5 reflex reflectors.

Directional Signals

The Massachusetts Supreme Judicial Court in a decision rendered on October 15, 1937 held that rules and regulations of the Department of Public Works, made under date of April 13, 1936, and purporting to require electrical or mechanical directional signal devices on certain commercial vehicles operated over state highways, were beyond the authority of the Department granted by statute and that the regulations were, therefore, void and unenforceable.

MOTOR VEHICLE DEATHS, INJURIES, COLLISIONS

Deaths in connection with the operation of motor vehicles in the year 1937 numbered 784 as compared with 817 in the year before, or 33 less, a 4.0% reduction. A comparative table of classified fatalities, injuries and collisions in the years 1936 and 1937 follows:

Motor Vehicle Accidents to Persons

	Persons Killed (including children)		Persons Injured (including children)	
	1936	1937	1936	1937
Pedestrians by autos	462	436	12,165	12,299
Pedestrians by motorcycles	0	0	31	16
Pedestrians near street cars	1	1	11	16
Occupants of autos	302	302	31,196	35,751
Occupants of autos at R. R. crossings	13	7	19	18
Occupants of motorcycles	6	8	180	157
Bicycle Riders	24	21	1,098	1,311
Occupants horse-drawn vehicles	0	4	104	95
Coasters on sleds	7	1	540	27
Coasters on wheels	2	4	118	164
Totals	817	784	45,462	49,854
	Children Killed		Children Injured	
	1936	1937	1936	1937
Boys	94	87	5,585	5,388
Girls	33	28	3,090	3,206
Totals	127	115	8,675	8,594

Types of Collisions

	1936	1937
Collision with pedestrian	13,511	14,019
Collision with automobile	20,215	22,986
Collision with horse-drawn vehicle	153	131
Collision with railroad train	27	23
Collision with street car	279	275
Collision with fixed object	1,860	2,140
Collision with bicycle	1,350	1,628
Non-Collision (overturn)	650	714
Collision with motorcycle	199	195
Collision with sled	553	26
Collision with animal	76	87
Coaster on wheels	137	183
Totals	39,010	42,407

P.D. 54		91
In the daytime	23,533	23,876
After dark	15,477	18,531
Totals	39,010	42,407

ACCIDENT REPORT LETTERS

As provided in Section 26, Chapter 90, General Laws, every operator of a motor vehicle in any manner involved in an accident in which any person is killed or injured is required to report in writing to the Registrar. The number of these formal accident reports received from operators in 1937 was 44,839 as compared with 41,605 received in 1936. Under the requirements of Section 29, Chapter 90, General Laws, 17,847 similar reports of accidents were received from police departments throughout the State in 1937 as against 17,498 received in 1936. In addition, in connection with this reporting of accidents by operators during the year 1937, there were received 8,730 letters and complaints reporting faulty operating as compared with 9,189 such letters in 1936.

COMPARATIVE STATEMENT OF YEARLY REGISTRATIONS, LICENSES, DEATHS, INJURIES, REVOCATIONS AND SUSPENSIONS

Year	Automobiles Registered	Motor Cycles Registered	Total Registrations	Number of Persons Killed	Number of Persons Injured	Licenses issued	Total suspensions and Revocations	For operating Under Influence of Liquor
1910	31,360	3,358	34,718	77	963	41,259	283	22
1911	38,907	3,658	42,565	110	1,248	51,950	360	14
1912	50,132	5,034	55,166	142	1,962	66,645	546	56
1913	62,660	7,127	69,787	188	2,923	81,034	608	87
1914	77,246	8,161	85,407	229	4,010	99,532	558	131
1915	102,633	9,520	112,153	294	6,197	133,935	1,153	202
1916	136,809	10,713	147,522	315	9,131	171,596	1,396	320
1917	174,274	11,065	185,339	438	7,282	214,229	1,831	435
1918	193,497	12,862	206,359	499	8,598	235,140	2,343	553
1919	247,183	13,698	260,881	582	16,287	297,968	2,156	554
1920	304,538	15,142	319,680	481	21,182	261,539	2,944	888
1921	360,731	12,058	372,790	544	11,487	380,519	4,899	1,508
1922	449,838	11,675	461,513	522	15,277	444,173	8,369	2,460
1923	566,150	11,733	577,883	578	16,217	536,819	11,613	3,333
1924	672,315	10,778	683,093	709	19,579	620,439	14,154	4,395
1925	764,338	10,333	774,671	755	25,736	698,378	16,249	4,654
1926	826,224	9,215	835,439	705	25,351	763,951	18,705	4,863
1927	819,703	7,245	826,948	693	31,721	814,094	31,252	4,983
1928	883,595	6,556	890,251	715	42,201	870,160	40,814	5,071
1929	1,018,904	6,168	1,025,072	777	46,111	944,338	53,133	5,381
1930	1,008,476	4,642	1,013,118	795	44,279	982,795	52,954	5,052
1931	1,006,808	3,068	1,009,876	793	48,337	1,024,304	63,841	5,535
1932	921,909	1,661	923,570	768	47,658	1,014,635	73,511	4,824
1933	930,493	1,023	931,516	769	48,249	1,022,662	56,691	4,274
1934	944,113	1,375	945,488	921	53,055	1,053,527	52,505	5,717
1935	967,178	1,375	968,553	795	48,421	1,077,880	52,317	6,264
1936	1,033,487	1,316	1,034,803	817	45,462	1,128,516	52,705	6,486
1937	1,084,693	1,176	1,085,869	784	49,854	1,177,924	58,358	6,829

INVESTIGATIONS AND PROSECUTIONS BY INSPECTORS

Investigations were made under the direction of the Chief Inspector relative to fatal and nonfatal accidents, violations of the laws concerning brakes and headlights, inspection of garages, miscellaneous complaints, and the prosecution of motorists in court. The table below shows the wide range of these activities of the inspectors.

Classification of Reports

	1936	1937
Accidents, fatal	782	790
Accidental, nonfatal	1,525	1,284
General reputation	1,598	1,612
Miscellaneous	6,389	6,885
Total	10,294	10,571

92		P.D. 54
Complaints filed	28,649	36,798
Garages inspected	8,274	13,280
Headlights, brakes, etc.	93,290	93,101
Prosecutions	778	921
Amount of fines	\$25,687	31,001

Revocations and Suspensions

	1936	1937
Licenses suspended	15,314	20,756
Licenses revoked	3,707	5,433
Rights suspended	5,788	6,718
Certificates suspended	5,660	4,645
Certificates revoked	20,126	19,806
Certificates and licenses suspended	42	32
Certificates and licenses revoked	1,369	330
Certificates revoked and right suspended	97	30
Rights in Massachusetts suspended	602	608

Totals	52,705	58,358
------------------	--------	--------

Resulting from investigations	14,498	14,092
Resulting from court convictions	12,852	14,855
Resulting from police complaints	3,033	3,539
Resulting from judges' complaints	3	4
Resulting from state police complaints	2,333	6,169
Resulting from insurance cancellations	19,986	19,699

Totals	52,705	58,358
------------------	--------	--------

Character of Offenses

	1936	1937
Reckless and endangering life	1,590	1,935
Liquor convictions	4,648	5,004
Going away after accidents	500	581
Without authority	545	554
Racing	6	0
Improper person	5,181	5,137
Improper person, liquor	1,838	1,825
Improper operating	4,028	3,621
Two overspeeds	531	98
Three overspeeds	13	3
Insurance cancellations	19,986	19,699
Insurance convictions	380	411
Improper equipment, miscellaneous	594	803
Improper equipment, lights	603	671
Improper equipment, brakes	3,662	2,382
Failure to display stickers	0	0
Fatal accidents	781	752
Property damage cases	442	399
Other offenses	95	96
Parking violations	3,717	5,455
Overloading trucks	0	0
Sixty milers	959	—
Fifty milers	2,413	8,519
Forty-five milers	—	291
Several minor complaints	186	119
Failure to slow for pedestrian	7	3

Totals	52,705	58,358
------------------	--------	--------

P.D. 54		93
Court recommendations adopted:—		
Reckless and endangering	45	41
Going away after accidents	3	6
Operating under influence of liquor	1	0
Allowing improper person to operate	0	0
Insurance convictions	1	1
Totals	50	48

Persons whose licenses were suspended or revoked and who had to pass examination in order to have them returned	5,086	5,124
Registrations revoked on liquor convictions	—*	1,476

* No figures available. Until September 24, 1936, both license and registration were revoked together on liquor convictions, and figures were not recorded separately. Acts of 1936, Chapter 434, effective on this date, required that hearing be given before registration could be revoked.

ANALYSIS OF COURT ABSTRACTS RECEIVED

	1936	1937
Number of courts forwarding abstracts	95	95
Total abstracts received	54,311	50,355
Abstracts recording convictions	35,575	36,967

Offenses

(Analysis of convictions, not including appeals)

	1936	1937
Overspeeding	11,470	11,896
Reckless driving	8	13
Operating under influence of liquor	4,314	4,533
Using auto without authority	753	828
Endangering lives	2,381	2,762
Not stopping after causing injury	842	969
Without license	2,555	2,644
Without registration certificate	475	543
Unregistered vehicle	481	496
Improper display or no register number	123	127
Refusing to stop on signal	259	410
Unlighted lamps*	287	0
Not signalling	0	0
Dazzling lights*	0	0
Operating within 8 feet of street car	59	71
Violation of Metropolitan Park rules	112	77
Operating after suspension or revocation of license	596	619
Larceny	108	160
Manslaughter	0	8
Miscellaneous	1,347	1,279
Lenses not approved	4	0
No reflector*	0	0
Racing	6	0
Operating after registration certificate revoked	7	17
No rear light*	41	0
Not displaying lights*	88	0
Passing Red Light	510	597
Improper lights	91	267
Brakes not as required by law	198	164
Violation of insurance law	484	578

* Figures relative to Unlighted lamps, Dazzling lights, No reflector, No rear light, and Not displaying lights for the year 1937 are here all included under "Improper Lights".

94		P.D. 54
Not slowing down approaching pedestrian	39	58
Not slowing down at intersecting way	6,593	6,508
Violation of law of road	1,198	1,158
Perjury—Making false statements on license application, falsely impersonating or conspiring to obtain a license	12	30
Loaning license to another	11	7
Allowing intoxicated person to operate	9	24
No windshield cleaner	0	1
Attempted larceny	29	26
Allowing improper person to operate	85	97
Totals	35,575	36,967

USED CAR SECTION

(Motor Vehicle Identification)

The following is a resume of the work accomplished by the Used Car Section which indexes, under engine numbers, all motor vehicles registered and reported stolen, and checks reports of sales of used cars against the stolen-vehicle records. Dealers' and repairmen's plates and registration certificates are issued by this section.

The work of the section is summarized in the following tables:—

Dealers

	1936	1937
Total number of first class dealers reporting	1,225	1,351
Total number of second and third class dealers reporting	615	628
Total number making reports to this office	1,840	1,979

Reports

Approximate number of notices of intended sales received daily	280	333
Approximate number of dealers' reports received daily	1,382	1,821

Motor Vehicles Stolen

Number stolen in Boston	3,297	2,885
Number stolen in Massachusetts (including Boston)	7,191	7,726
Number reported stolen from various sources throughout the country, including Massachusetts	21,179	20,679
Number of motor vehicles recovered through information furnished by this office	290	330

Engine and Serial Numbers

Engine numbers assigned to cars	5	9
Certificates issued authorizing the replacement of engine numbers	338	315
Certificates issued authorizing the replacement of serial numbers	191	90
Certificates issued authorizing the replacement of both engine and serial numbers	6	7
Total number of authorization certificates issued	535	421

EASTERN CONFERENCE OF MOTOR VEHICLE ADMINISTRATORS

The department was represented at meetings of the Conference held at Asbury Park, N. J., May 25 and 26, and Providence, R. I., November 18 and 19, 1937.

Many matters of common interest to the motor vehicle administrators of the member states were studied and discussed, including programs for

highway safety campaigns, methods for procuring uniform enforcement of motor vehicle laws, methods for controlling the speed of motor vehicles, instruction in high schools on motor vehicle operation, physical and mental examination of motor vehicle operators, curbing motor vehicle thefts, the problem of the drunken operator, and the procedure in suspension and revocation of operators' licenses.

The meetings resulted in beneficial gains of knowledge concerning the constantly increasing duties and problems of the administrators, and served to renew a strong spirit of cordial and helpful cooperation.

ANALYSIS OF RECEIPTS

The fees received for the year 1937 together with the number of certificates of registration issued in each classification and the number of licenses granted, etc., are shown in the following table:

Certificates of Registration:

Passenger cars (including taxicabs)	960,029	\$2,689,087.06
Commercial cars	119,737	1,410,459.00
Buses	4,927	131,135.40
Trailers	11,333	23,138.00
Motor Cycles	1,176	1,597.75
Manufacturers or Dealer (including repairers)	3,446	10,338.00
Manufacturers or Dealers additional cars (including repairers)	20,710	62,129.00

Licenses to operate:

Original licenses		103,703	207,406.00
Renewal licenses		1,074,221	2,148,264.00
Examinations	84,250	\$168,500	
Re-examinations	25,479	25,479	

Total examinations	109,729		193,979.00
Copies of certificates and licenses furnished		39,884	39,883.50
Duplicate number plates furnished		9,214	9,214.00
Miscellaneous receipts, process fees, etc.			18,971.59

Total amount of fees			\$6,945,602.30
Motor Vehicle fees rebated (deducted)			68,891.65

Net fees			\$6,876,710.65
----------	--	--	----------------

Court fines received by the Treasurer and Receiver-General*			5,948.55
---	--	--	----------

Total receipts not including gasoline tax**) credited

Highway Fund Account, 1937,			\$6,882,659.20
-----------------------------	--	--	----------------

* Fines imposed under the provisions of Chapter 90 are payable to the treasury of the county wherein the offence was committed, effective October 1, 1935 (Acts of 1935, Chapter 303).

** Receipts from the gasoline tax, credited to the Highway Fund, are collected through the office of the Commissioner of Corporations and Taxation.

EXPENSES OF THE REGISTRY OF MOTOR VEHICLES

The cost of running the Registry of Motor Vehicles for the fiscal year 1937 was \$1,578,195.99, which was 22.9% of the net fees collected. This cost, deducted from the receipts for the year, left the sum of \$5,304,463.21 available for legislative appropriation for highway work.

ANALYSIS OF EXPENDITURES FOR THE FISCAL YEAR 1937

Personal Services:

Regular employees payroll	\$1,033,461.53	
Temporary employees payroll	41,030.05	
Overtime payroll	5,505.35	
		\$1,079,996.93

Supplies:

Books, maps, etc.	\$820.04
News clippings	268.70
Carbon	641.58
Typewriter supplies	1,038.34
Adding machine supplies	24.65
Other supplies	8,497.80
Envelopes	7,931.76
Guide cards, folders	1,786.87
Paper	1,123.01
Pens, pencils, etc	977.33
Miscellaneous	1,099.26
Typewriter repairs	346.90
Other repairs	1,878.97

 \$26,435.21

Equipment and Furniture:

Typewriter machines	\$7,138.79
Adding machines	488.00
Other machines	5,328.71
Desks	937.00
Bookcases, tables, etc	521.45
Filing cabinets	6,975.49
Chairs, settees, etc.	531.12
Dictograph system	62.79
Headlight and brake testing equipment	1,600.06
Uniforms	3,027.41
Counters, safes etc. (inc. Branch off.)	286.09
Hold-up protection	448.60

 \$27,345.51

Travel:

Officials	\$385.50
Employees	11,011.13
Mileage—Private cars	103,254.77
Auto Maintenance—	
Garage rent	620.90
Gas and oil	1,148.85
Miscellaneous	294.45
Repairs and supplies	347.28
Automobiles purchased	1,133.00
Aviation Expenses—	
Employees	826.55
Mileage (Private cars)	990.54
Garage rent	199.27
Gas and oil	642.24
Miscellaneous	29.00
Repairs and supplies	232.60
Telephone	79.07
Miscellaneous	40.00

 \$121,235.15

Other Services and Expenses:

Expressage	\$2,734.85
Postage	95,447.72
Printing—	
Paper for printing	10,003.56
Other reports	1,830.52
Other printing	11,784.88
Telephone, telegraph and teletype	15,090.59
Premium on Bonds	530.66
Rent (inc. cleaning and labor)	915.00

Labor	1,627.01	
Number plates	129,326.38	
Police lists	8,250.00	
Sundries	272.35	
Air-marking project	2,205.08	
		<hr/>
		\$280,018.60
Branch Office Expenses:		
Rent	\$23,024.34	
Telephone	7,699.12	
Lighting	2,040.23	
Cleaning and Janitor Service	4,746.83	
Express Service to Bank	1,090.00	
Labor	1,131.97	
Towels, Ice and Water	704.85	
Travel	170.00	
Miscellaneous	1,316.79	
Remodelling Office	832.56	
		<hr/>
		\$42,756.69
		<hr/>
		\$497,791.16
<i>Publicity for Safety Work</i>		
Printing		\$407.90
<i>Summary</i>		
Payrolls		\$1,079,996.93
Expenses		497,791.16
Publicity for Safety Work		407.90
		<hr/>
		\$1,578,195.99

RELATING TO WATERWAYS AND PUBLIC LANDS BOSTON HARBOR

The Commonwealth Flats at South Boston

Commonwealth Pier 5

The minor work necessary for the effective operation of the pier has been continued during the year. Repairs have been made to the gangways, floating fenders, sprinkler system, elevators, elevator machinery, Ogden doors and to the heating plant.

The repair and reconstruction of platforms at this pier, approved as Public Works Administration Project No. Mass. 1301 was completed late in May, 1937. This work was done under two contracts, one with the Merritt-Chapman and Scott Corporation, the other with the Bay State Dredging and Contracting Company.

Under contract of December 13, 1935, with the Merritt-Chapman and Scott Corporation the pile and timber platforms on the outer portions of the pier surrounding the pier sheds were removed, and a new concrete platform built consisting of a reinforced concrete deck slab on a frame work of girders and steel beams supported on caisson and steel pile foundations with the steel piles driven to rock bearing or to hard under-lyin strata. This work was completed May 26, 1937.

Under contract of July 14, 1936, with the Bay State Dredging and Contracting Company repairs were made to the foundations of the Head House at the inshore end of the pier. On account of the difficulty of supporting this structure to allow the removal of the wooden piles, it was decided to enclose the foundations with a steel sheet pile bulkhead and to protect the wooden piles with light weight concrete. This work was completed March 1, 1937.

The total contract cost of the work under these two contracts was \$780,450.60, for which a grant of \$386,526 was made by the Public Works Administration.

To facilitate the examination of passengers from the Canadian National Steamships a request was made by the United States Customs Officials for the erection of a fence in the room at Commonwealth Pier used for this purpose. A contract was made on July 13, 1937, with P. J. Dinn and Company for the building of a wire fabric fence 8 feet high and about 199 feet 4 inches long in the Examination Room at the pier at a contract price of \$686. The work was completed August 4, 1937.

Increasing complaints were received this year from steamship agents and stevedores as to certain difficulties in moving cargo because of the settlement of the pavement on the first floor of the pier. As repairs to other floors at the pier had become necessary a contract with the Warren Brothers Roads Company was made on November 2, 1937, for resurfacing with bituminous concrete on a Portland cement concrete base portions of the first floor and second floor at the pier. This work is now in progress.

A summary of freight and passengers using the pier in 1937 follows:

**NUMBER OF TONS FREIGHT AND PASSENGERS HANDLED AT COMMONWEALTH
PIER 5 DURING FISCAL YEAR ENDING NOVEMBER 30, 1937**

Steamship Line	Number of Ships	Inward Freight Tons			Outward Freight Tons			Passengers		
		R.R.	Truck	Total	R.R.	Truck	Total	In	Out	Total
Amer.-Haw. S.S. Co. . .	82	28,429	85,070	113,499	14,440	28,323	42,763	—	—	—
Luckenbach S.S. Co. . .	51	8,533	58,513	67,046	8,585	17,420	26,005	—	—	—
Norton, Lilly & Co. . .	10	1,393	13,315	14,708	—	—	—	—	133	133
Int'l Mercantile Marine	2	1,939	6,872	8,811	—	—	—	—	—	—
Can. Nat. S.S. Co. . . .	71	188	1,295	1,483	88	416	504	4,113	3,308	7,421
Italian Line	15	—	146	146	290	100	390	—	2,696	2,696
French Line	3	—	—	—	—	—	—	187	572	759
Holland Amer. Line . . .	3	—	—	—	—	—	—	441	206	647
TOTALS	237	40,482	165,211	205,693	23,403	46,259	69,662	4,741	6,915	11,656

In the early summer large shipments of wool arriving at the pier could not be moved readily on account of the strike of the wool handlers and accumulated to such an extent as to cause a considerable congestion of cargo. This condition resulted in a demand for additional pier facilities in Boston Harbor.

In response to this demand the Department has during the year made studies and investigations as to feasibility and comparative costs of building a new pier easterly of the Fish Pier at South Boston, of rebuilding and enlarging Commonwealth Pier 1 at East Boston, and of constructing piers at other sites in Boston Harbor.

DEVELOPMENT OF LAND SOUTH OF SUMMER STREET

The seven sections of Storehouse No. 1 on E Street have been occupied during the year by the Wiggin Terminals, Inc. Repairs to the Storehouse needed this year have been carried out for the most part by employees of the Department.

RAILROAD YARDS OF THE COMMONWEALTH

Under an agreement dated November 23, 1937, the Commonwealth granted to the Trustees of the property of the New York, New Haven and Hartford Railroad Company the continued use to October 31, 1941, of the surplus capacity of the Commonwealth Railroad Yard at a rental of \$10,500 per year. This yard has been used for some years by the railroad company under agreements of November 15, 1916 and March 16, 1928. The present agreement provides that the use of this yard by the Company

"shall in all cases be subordinate to the use of said railroad yard in connection with said Commonwealth Pier 5 and other properties of the Commonwealth north of Summer Street in South Boston and subject to such reasonable rules and regulations as may from time to time be prescribed by the Commonwealth or such board or boards as may exercise its powers, and the use by the Contractor shall be without material interference with such use."

The Commonwealth under date of November 23, 1937, made an agreement with the Trustees of the New York, New Haven and Hartford Railroad Company for the continuance by the Company to December 31, 1941, of its use of the surplus capacity of the railroad yard built by the Federal Government and released to the Commonwealth by the Secretary of War on May 14, 1926, and two tracks northerly of and connecting with the tracks of the Commonwealth railroad yard, at a rental of \$29,250 per year. This yard has been used for some years by the railroad company under an agreement dated March 16, 1928. The present agreement provides:

"The use of said Federal railroad yard and of said two tracks which said Contractor may make hereunder shall in all cases be subordinate to the use of said Federal railroad yard and tracks, which the Commonwealth may at any time have occasion to make and shall be subject to such reasonable rules and regulations as may from time to time be prescribed by the Commonwealth or such board or boards as may exercise its powers, and the use by the Contractor shall be without material interference with such use; provided that the Contractor shall maintain and at all reasonable times make available for service two tracks lying within and through said Federal Railroad yard for use of delivery of cars to and from the United States Army Base, in accordance with the terms of an agreement between said Commonwealth and the United States of America dated May 14, 1926, the conditions of which as applied to said two tracks are hereby referred to and made a part of this agreement during the continuance thereof."

THE COMMONWEALTH FLATS AT EAST BOSTON

Aircraft Landing Field - - - Boston Airport

The greater part of the area reclaimed by the Commonwealth at East Boston continues to be occupied by the city of Boston as an airport. On August 10, 1928, under authority of Chapter 64 of the Resolves of that year, the Department leased to the city approximately 5,717,000 square feet of land for this purpose. The use of an additional area of 4,210,760 square feet was authorized by a lease executed July 14, 1930, in accordance with the provisions of Chapter 53 of the Resolves of 1930. The matter of the lease to the city of two additional parcels, one northeasterly of the area leased in 1928 and 1930, the other southeasterly of the parcel leased in 1930, is still pending.

The use of these areas by the city is subject to certain rights of occupancy and use granted by lease of June 30, 1922 to the War Department, with an option of annual renewals to June 30, 1937, by a supplementary agreement of December 27, 1926.

During the year studies have been made and estimates of cost of enlarging the airport to provide additional area and increased length of runways.

Reclamation of Flats

The work of dredging and filling at East Boston under contracts made by the Department for the purpose of reclaiming flats has been in abeyance since 1923. Between that year and November 30, 1937, approximately 3,186,510 cubic yards of material dredged from various locations

in the harbor have been deposited in the receiving basin. In the year ending November 30, 1937, about 106,700 cubic yards were dumped upon flats northerly of Governors Island. The Commonwealth has reclaimed approximately 150 acres of land at East Boston.

Under licenses granted for building bulkheads, dredging and filling, the city has reclaimed for the extension of the airport about 140 acres.

COMMONWEALTH PIER 1, EAST BOSTON

Work under letter contract of November 25, 1936, with the Flynn Roofing and Sheet Metal Works for installing skylights at the pier was completed December 30, 1936, at a contract cost of \$1,601.18. This contractor in March made repairs to the roof of the pier in accordance with letter contract of March 1, 1937, at a contract cost of \$278.26.

During the year six vessels have docked at this pier, discharging a total cargo of 7,027 tons.

EAST BOSTON - - CUNARD DOCKS

The dredging to a depth of 40 feet at mean low water of an area between the Cunard Docks and the Main Ship Channel in Boston Harbor, under letter contract of August 4, 1936, with the Bay State Dredging and Contracting Company was completed December 30, 1936, at a contract cost of \$12,876.27.

ANCHORAGE BASIN

On January 21, 1937, a letter contract was made with the M and R Construction Company for repairs to the dolphins marking the northerly edge of the Anchorage Basin at East Boston. This work was completed February 2, 1937, at a contract cost of \$345.

DORCHESTER BAY

Hearing was held May 5, 1937, on petition of members of the Savin Hill Yacht Club for the dredging of an area adjacent to the basin used by the boats of the club in Dorchester Bay near the club house.

On June 7, 1937, a contract was made with the Bay State Dredging and Contracting Company to dredge a basin in Dorchester Bay at the Savin Hill Yacht Club to a depth of 8 feet at mean low water at the following contract prices: for dredging and disposing of the dredged material 45 cents per cubic yard, scow measurement; for removing and disposing of boulders \$20 per cubic yard. The work was completed July 3, 1937, at a contract cost of \$14,606.55. Toward this cost a contribution of \$3,000 was made by the Metropolitan District Commission.

MALDEN RIVER

A contract was made on July 13, 1937, with Herbert T. Gerrish to dredge to a depth of 6 feet at mean low water a channel about 2200 feet long and 100 feet wide in Malden River, Everett, Malden and Medford, at the following contract prices: for dredging and disposing of the dredged material on shore, 44 cents per cubic yard, measured in situ; for removing and disposing of boulders \$20 for each cubic yard. This work was completed October 21, 1937, at a contract cost of \$19,498.60. Toward this cost a contribution of \$3,000 was made by The Barrett Company.

On October 26, 1937, a contract was made with the North Atlantic Dredging Company to dredge in Malden River a channel about 1200 feet long and 60 feet wide on the bottom to a depth of 6 feet at mean low water below the Medford Street Bridge, and a channel 50 feet wide on the bottom to a depth of 5 feet at mean low water through said bridge and for a distance of about 150 feet above it. The contract prices for this work were: for dredging and disposing of the dredged material on shore 45 cents per cubic yard, measured in situ; for removing and disposing of all boulders \$20 for each cubic yard. This dredging is now in progress.

Toward the cost of the work a contribution of \$1,000 was made by the Morton Oil Company.

WOLLASTON DREDGING

Hearing was held January 27, 1937, on petition of the Wollaston and Squantum Yacht Clubs for dredging the channel and basins at Wollaston serving the two clubs.

On June 7, 1937, a contract was made with the J. S. Packard Dredging Company to dredge to a depth of 6 feet at mean low water a channel and basin at the Wollaston and Squantum Yacht Clubs in Quincy, at the following contract prices: for dredging and disposing of the dredged material 47 cents per cubic yard, scow measurement; for removing and disposing of boulders \$25 per cubic yard. This work was completed July 16, 1937, at a contract cost of \$22,808.63. Toward this cost a contribution of \$3,500 was made by the city of Quincy.

POINT PEMBERTON SEA WALL, HULL

On March 26, 1937, a contract was made with Karl M. Fredrickson to place about 140 linear feet of concrete footing under the toe of the existing sea wall, to make patch repairs to the present wall, including filling of the construction joints, to place about 1000 tons of stone riprap including chips, and to rehandle existing riprap that may interfere with the construction of the proposed footing. The contract prices for this work were: for furnishing all labor and materials and constructing the concrete footing under and in front of the present wall, including all excavation, back filling and incidental work, \$12 for each cubic yard of concrete placed in the completed work; for furnishing labor, materials, tools and equipment and doing all work necessary to patch existing sea wall and fill the construction joints, the lump sum of \$100; for each ton of new stone riprap or chips furnished in place in the completed work, \$1.44 for each ton of 2000 pounds; for rehandling existing riprap and replacing the same within the new work, including all incidental expense the lump sum of \$15. This work was completed May 4, 1937, at a contract cost of \$2,182.84.

WEYMOUTH FORE RIVER, QUINCY AND WEYMOUTH

The dredging in Weymouth Fore River in co-operation with the project of the Federal Government has been continued this year.

The work under letter contract of November 19, 1936, with the J. S. Packard Dredging Company was completed March 31, 1937, at a contract cost of \$5,958.28.

On May 17, 1937, a letter contract was made with the J. S. Packard Dredging Company for dredging approximately 8000 cubic yards of material from an area in the channel above the Weymouth Fore River Bridge to a depth of 27 feet at mean low water, at a contract price of 46 cents per cubic yard, scow measurement, for dredging and disposing of the dredged material. This work was completed May 20, 1937, at a contract cost of \$3,712.20.

A further contract with the J. S. Packard Dredging Company was made on June 7, 1937, for the removal of shoals in the channel from the upstream side of the Quincy-Weymouth Bridge for a distance of about 2800 feet in Weymouth Fore River to a depth of 27 feet at mean low water, at the following contract prices: for dredging and disposing of dredged material 58 cents per cubic yard, scow measurement; for removing and disposing of boulders, \$25 per cubic yard. This work was completed August 30, 1937, at a contract cost of \$12,005.42.

The dredging carried out under these contracts completes the work required by the Federal Government in connection with its recent project for the improvement of Weymouth Fore River.

HAYWARD'S CREEK

Early in the fiscal year the Department with the assent of the Governor and Council executed a deed and agreements to allow further development of land at Hayward's Creek.

By deed dated December 29, 1936, the Commonwealth conveyed to the Bethlehem Shipbuilding Corporation, Ltd., two parcels of land in Quincy and Braintree, containing a total area of 14.71 acres at a price of \$73,550.

By agreement of December 29, 1936, the Fore River Railroad Corporation granted to the Commonwealth certain rights to cross over and under the railroad operated over a strip of land conveyed to the Company in 1920 and separating parcels of land belonging to the Commonwealth. The execution of this agreement allows convenient access from each of these parcels to the other.

An agreement was also made on December 29, 1936, with Matthew P. Scullin for his purchase of five parcels of land of the Commonwealth in Quincy and Braintree, containing 33.49 acres. The purchaser is to pay \$100,000 in 20 equal annual payments and, in addition, a rental of \$1,875 per year until the payments are completed.

MARINE BORERS

The Department has continued this year its co-operation with the New England Committee on Marine Piling Investigation by maintaining four test boards in Boston Harbor at the following locations: Commonwealth Pier 1, East Boston; Commonwealth Pier 5, South Boston; Weymouth Fore River Bridge at Quincy Point, and at the wharf owned by the Commonwealth in South Bay, Roxbury.

Sample blocks removed each month from the test boards are sent to the Committee for examination and comparison with similar blocks from other stations on the New England coast. The results of these examinations are published by the Committee.

INSPECTION OF STRUCTURES IN TIDE WATER

In 1936 and 1937 the appropriations made by the Legislature for the inspection of structures in tide water have enabled the Department to continue the work in Boston Harbor during these two years.

Above mean low water 193 structures have been inspected; 26 structures have been examined by a diver below mean low water; and 3 special reports with plans and photographs have been made relative to structures not now being maintained in accordance with the provisions of the licenses granted for the work and the plans accompanying the licenses.

SURVEYS

Surveys have been made during the year in connection with the maintenance and operation of property of the Commonwealth. Hydrographic surveys have been carried on for the purpose of providing data for projects for the improvement of navigation, in Mystic River, Malden River, at Jeffries Point, in Weymouth Fore River, Neponset River, Dorchester Bay, Quincy Bay, Hingham Bay at Houghs Neck, Hingham Harbor at Crow Point, Weir River and Hull Bay.

RIVERS, HARBORS, TIDE WATERS AND FORESHORES
OUTSIDE OF BOSTON HARBOR

For the improvement of rivers, harbors, tide waters and foreshores outside of Boston Harbor, in accordance with the provisions of section 11, Chapter 91, General Laws, an appropriation of \$100,000 was made during 1937, with the following condition:

"provided, that all expenditures made for the protection of shores shall be upon condition that at least fifty per cent of the cost is

covered by contributions from municipalities or other organizations and individuals, and that in the case of dredging channels for harbor improvements at least twenty-five per cent of the cost shall be so covered."

An appropriation of \$22,500 was also available during the year for the maintenance of structures, and for repairing damages along the coast line or river banks of the Commonwealth, and for the removal of wrecks and other obstructions from tide waters and great ponds.

Petitions were filed with the Department this year for surveys and improvements in the following localities: Barnstable shore, Barnstable; Bass River, Dennis and Yarmouth; Brewster Shore; Chatham Shore; Cotuit Shore, Barnstable; Dennis Shore; Falmouth Shore; Harbor Cove, Gloucester; Harwich Shore; Herring River, Harwich; Lagoon Pond, Oak Bluffs and Tisbury; Lewis Bay, Barnstable; Lewis Bay, Yarmouth; Little Harbor, Marblehead; Lobster Cove, Gloucester; Lynn Harbor, Lynn; Megansett Harbor, Falmouth; Newburyport Shore; Oak Bluffs Shore; Pilgrim Beach, Truro; Provincetown Shore; Silver Beach and Wild Harbor, Falmouth; Vineyard Haven Harbor; Wellfleet Shore; West Bay, Barnstable.

Public hearings have been held and estimates of cost made, but no work has been undertaken to carry out improvements petitioned for at Bass River, Dennis and Yarmouth; Little Harbor, Marblehead; Lynn Harbor, Lynn; Megansett Harbor, Falmouth; Newburyport Shore; Provincetown Shore.

Information as to work previously done in rivers and harbors of the Commonwealth may be found in the annual reports of the Board of Harbor and Land Commissioners, the Commission on Waterways and Public Lands, the Division of Waterways and Public Lands of the Department of Public Works and the Department of Public Works.

An account of work done during 1937 for the improvement of rivers, harbors, tide waters and foreshores outside of Boston Harbor follows.

BARNSTABLE DREDGING

Cotuit Harbor, East Bay and Lewis Bay

Work under contract of July 1, 1936, with the Bay State Dredging and Contracting Company for dredging the entrance channels to Cotuit Harbor, East Bay and Lewis Bay, was completed May 6, 1937, at a contract cost of \$20,565. Toward this cost a contribution of \$9,000 was made by the town of Barnstable.

Hyannis Harbor

Hearing was held January 27, 1937, on a petition of Horatio S. Bond and others for dredging an anchorage basin in Hyannis Harbor,—sometimes known as Inner Lewis Bay.

On July 14, 1937, a contract was made with Herbert T. Gerrish to dredge by the hydraulic method an anchorage basin 6 feet deep at mean low water in Hyannis Harbor at the following contract prices: for dredging and disposing of the dredged material within the disposal area or on marsh or flats, 53 cents per cubic yard measured in place; for removing and disposing of boulders \$20 per cubic yard. This work was completed November 30, 1937, at a contract cost of \$13,137.64. Toward this cost a contribution of \$5,000 was made by the town of Barnstable.

Popponesset Bay

The work of dredging a channel and basin in Popponesset Bay under contract of July 21, 1936, with Herbert T. Gerrish was completed June 9, 1937, at a contract cost of \$11,028.16. Toward this cost a contribution of \$4,000, was made by the town of Barnstable and contributions amounting to \$1,600 by individuals interested.

West Bay

Hearing was held January 27, 1937, on petition of the Selectmen for widening and deepening the channel at the entrance to West Bay.

On June 7, 1937, a contract was made with the Bay State Dredging and Contracting Company for dredging a channel at the entrance and into West Bay to a depth of 6 feet at mean low water and a width of 100 feet on the bottom, at the following contract prices: for dredging and disposing of the dredged material 65 cents per cubic yard, scow measurement; for removing and disposing of boulders \$20 per cubic yard. This work was completed July 29, 1937, at a contract cost of \$7,176. Toward this cost a contribution of \$3,750 was made by the town of Barnstable.

BARNSTABLE SHORE PROTECTION

Cotuit

Hearing was held November 10, 1937, on petition of the Selectmen for protective work at the town landing and bathing beach on Ocean Avenue at Cotuit.

Proposals for building about 225 linear feet of concrete sea wall and a stone jetty about 100 feet long opposite Ocean View Avenue were received November 30, 1937.

West Beach - - Squaw Island Road

Hearing was held January 27, 1937, on petition of the Selectmen for additional jetties to protect the shore at West Beach.

On October 13, 1937, a contract was made with Frederick V. Lawrence for building three stone jetties with riprap returns along and easterly of Squaw Island Road at Hyannisport, at a contract price of \$2.70 for each ton of 2000 pounds of granite stone riprap and chips placed in the completed work. Under this contract work is now in progress.

South Hyannis

A contract was made on October 27, 1937, with George M. Bryne for building a stone jetty and placing stone riprap for the protection of a part of the shore at South Hyannis, at a contract price of \$2.47 per ton of 2000 pounds for granite stone riprap and granite stone chips furnished and placed in the completed work. The stone jetty and the placing of riprap were completed November 15, 1937, at a contract cost of \$1,521.30. Toward this cost a contribution of \$400 was made by the County and an equal amount was contributed by the owner of the property particularly benefited by the protection.

BREWSTER SHORE PROTECTION

Hearing was held January 27, 1937, on a petition of the Selectmen for jetty construction on the northerly shore of Brewster at Ellis Landing and on a petition of Eleanor Gleason for the building of a jetty to protect her property.

On August 25, 1937, a contract was made with George M. Bryne to place riprap upon the shore at the bank in front of the Gleason property and at Ellis Landing, at a contract price of \$3.08 for each ton of 2000 pounds of heavy granite stone riprap and stone chips furnished and placed in the completed work. The placing of riprap was completed October 12, 1937, at a contract cost of \$1,855.05. Toward this cost contributions of \$500 each were made by the town and the county.

CAPE COD CANAL LANDING PIER, BOURNE

The Cape Cod Canal pier authorized by Chapter 414 of the Acts of 1931, and completed in 1934, is built of solid fill construction about 600 feet long, providing a depth of 25 feet in the dock at mean low water and a light timber extension about 400 feet long as a tie up for vessels along the easterly side of the turning basin. A superstructure 36 feet wide

and 200 feet long has been built of brick, steel and timber upon the pier. No work except minor repairs has been needed during the year.

CONNECTICUT RIVER

WPA Work

During the year 1937 the Department in co-operation with the Works Progress Administration continued the work of placing riprap and building dikes and concrete walls at various points along the Connecticut River to repair damage caused by flood and protect certain towns from future damage due to excessive high water.

Work was carried on this year in the following towns and cities: Northfield, Montague, Deerfield, Whately, Hatfield, Hadley, Northampton, Easthampton, South Hadley, Chicopee, Holyoke and West Springfield.

The Department in 1937 has expended State funds amounting to \$23,970.45 for this work as its share of the total expenditure of \$242,996.19.

DENNIS SHORE PROTECTION

Dennisport

The work of building two stone jetties under the terms of the contract of September 22, 1936, with the H. and J. Construction Company was completed January 8, 1937, at a contract cost of \$2,250. Toward this cost contributions of \$600 each were made by the town and the county.

Dennisport and Sesuit

Hearing was held January 27, 1937, on petition of the Selectmen for three stone jetties on the southerly shore of Dennis at Dennisport.

A contract was made on August 25, 1937, with George M. Bryne to build four stone jetties on the shore at Dennisport and one stone jetty on the shore at Sesuit, at the following contract prices: for furnishing and placing heavy granite stone riprap and granite stone chips in the jetties, \$3.08 for each ton of 2000 pounds of stone in the completed work. These jetties were completed November 6, 1937, at a contract cost of \$5,658.18. Toward this cost contributions of \$1,500 each were made by the town and the county.

EAST BAY, BARNSTABLE

On October 27, 1937, a contract was made with Harry L. Jones to build a timber fence about 150 feet long westerly of the west jetty at the entrance to East Bay, at a contract price of \$494.76 for building the fence, including all material, the furnishing of all plant, tools, labor and equipment and incidental work. This construction is now in progress.

FALMOUTH SHORE PROTECTION

Falmouth Heights and Menauhant

Hearing was held on January 27, 1937, on petitions of the Selectmen and others for stone jetties at Falmouth Heights and Menauhant.

A contract with Frederick V. Lawrence was made on July 14, 1937, for building a stone jetty about 190 feet long at Falmouth Heights and a stone jetty about 200 feet long at Menauhant, at a contract price of \$3.24 per ton of 2000 pounds of granite stone riprap and chips furnished and placed in the jetties. This work was completed September 9, 1937, at a contract cost of \$10,983.60. Toward this cost contributions of \$2,750 each were made by the town and the county.

Shore Street

Work under contract of October 6, 1936, with Turner and Breivogel for building a steel sheet pile bulkhead and reinforced concrete cap opposite Shore Street was completed December 9, 1936, at a contract cost of \$2,189.93.

On December 18, 1936, a letter contract was made with S. W. Lawrence to furnish and place about 100 tons of stone riprap and chips at a contract price of \$3 per ton to protect the westerly end of the steel and concrete bulkhead built under the contract of October 6, 1936. This work was completed February 1, 1937, at a contract cost of \$335.64.

Toward the cost of the protective work provided under these two contracts, contributions of \$750 each were made by the town and the county.

GLOUCESTER FISH PIER

After the refusal in November, 1936, of the Federal Public Works Administration to aid in financing the building of the Gloucester Fish Pier unless the lease required by the provisions of Chapter 303 of the Acts of 1936, was executed with a non-profit sharing organization, the citizens of Gloucester organized the Gloucester Community Pier Association, Inc., in compliance with the ruling of the Federal authorities in this matter.

On March 1, 1937, the Mayor of Gloucester submitted to the Department the Order of the City Council under date of February 26, 1937, authorizing the taking of land for the site of the proposed pier, the Order of taking of the same date, an order of the City Council made February 26, 1937, authorizing the Mayor to sign an agreement with the Department to construct a public way from the main highway over Parker Street to said pier, and the agreement executed by the Mayor in accordance with the Order. A deed dated March 1, 1937, from the city to the Commonwealth of the land needed for the building of the pier was also delivered to the Department.

An agreement under date of March 1, 1937, between the Department and the Gloucester Community Pier Association, Inc., for the leasing of the pier was executed and an indenture of lease under the same date was signed. The agreement and lease were approved by the Governor and Council and the terms accepted by the Federal Government.

On April 6, 1937, a contract was made with the Bay State Dredging and Contracting Company for the construction of a fish pier at Five Pound Island, Gloucester, and for dredging approaches to the pier, at unit prices amounting to a contract cost of \$331,672.20. This work is now in progress.

A contract was made on August 3, 1937, with the Frick Company, Inc., to furnish and install in complete working order the equipment specified in the Stores Building and the Cold Storage Building at this pier, for the lump sum of \$207,186.

On October 5, 1937, a contract was made with the H. L. Hauser Building Company, Inc., for the construction of the Stores Building and Cold Storage Building at the Gloucester Fish Pier at the following contract prices: for furnishing materials and erecting complete in place the Stores Building above the piles and the Cold Storage Building above elevation 8, with appurtenant structures and equipment, the lump sum of \$439,704; for excavation, foundations, steel concrete piles, etc., at unit prices, a sum estimated at \$38,850. This work is now in progress.

HARBOR COVE, GLOUCESTER

Hearing was held January 27, 1937, on petition of the Mayor of Gloucester for dredging in Harbor Cove to provide access to the city landing.

On July 22, 1937, a letter contract was made with the Bay State Dredging and Contracting Company to excavate 1200 cubic yards of material from an area near the city landing at a contract price of 40 cents per cubic yard, scow measurement. This work was completed August 5, 1937, at a contract cost of \$480. Toward this cost a contribution of \$240 was made by the city of Gloucester.

HARWICH SHORE PROTECTION

Harwichport

The work of building four stone jetties and reconstructing two jetties

at Harwichport under contract of September 8, 1936, with the H and J Construction Company was completed December 8, 1936, at a contract cost of \$4,505.40. Toward this cost contributions of \$1,000 each were made by the town and the county.

The building of four additional jetties at Harwichport under contract of November 17, 1936, with Frederick V. Lawrence was completed December 4, 1936, at a contract cost of \$3,827.25. The town and the county contributed \$1,200 each toward the cost of these jetties.

South Shore

Hearing was held January 27, 1937, on petition of the Selectmen for the building of jetties along the south shore of Harwich between the Dennis and Chatham boundary lines.

On September 14, 1937, a contract was made with Frederick V. Lawrence for building a stone jetty near Horse Grass Hill, extending two jetties, repairing four jetties and rebuilding one jetty, along the Harwich shore on Nantucket Sound. The contract prices for this work were: for furnishing and placing granite stone riprap and stone chips in the new jetty, the extension of two jetties and the repairs to the other jetties, the sum of \$3 for each ton of 2000 pounds; for furnishing crane, operator, two men, and for all incidental work in rebuilding one jetty, the sum of \$7 for each hour for crane, operator and two men. The work was completed November 9, 1937, at a contract cost of \$3,682.63. Toward this cost contributions of \$1,000 each were made by the town and by the county.

HERRING RIVER AND WITCHMERE HARBOR, HARWICH

In October an inspection of the jetties at the entrance to Herring River and to Witchmere Harbor showed considerable sand moving through the structures and causing shoaling in the harbors. Repairs to these jetties seemed imperative.

A contract was made on October, 1937, with Louis A. Byrne for repairing the westerly stone jetties at Witchmere Harbor and Herring River by placing crushed stone to fill openings in the existing stone work, at the following contract prices: for furnishing and placing broken stone in the jetties, \$3.70 for each ton of 2000 pounds in the completed work; for material excavated and placed as back filling in the completed work, 80 cents for each cubic yard. These repairs are not yet completed. Toward the cost of the work a contribution of \$1,500 has been made by the town.

KATAMA BAY, EDGARTOWN

Hearing was held two years ago upon a petition of the Selectmen for the reopening of a channel through the beach from Katama Bay to the Atlantic Ocean, as the channel excavated in 1921 had shoaled and shifted to the eastward.

On August 3, 1937, a contract was made with Turner and Breivogel to excavate a channel through Katama Beach from Katama Bay to the ocean at a contract price of \$1,745 for the completed work, providing a channel 50 feet wide on the bottom, with side slopes of 2 on 1, about 300 feet long and excavated to the depth of mean low water in Katama Bay. This work was completed August 30, 1937, at a contract cost of \$1,745.

LAGOON POND, OAK BLUFFS AND TISBURY

On February 10, 1937, a letter contract was made with Herbert T. Gerrish to excavate about 1000 cubic yards of material from a shoal lying inside the new Lagoon Pond Bridge between Oak Bluffs and Tisbury, to a depth of 6 feet at mean low water and a width of approximately 40 feet, at a lump sum price of \$935, including the disposal of excavated material on marsh land near by. The dredging was completed February 20, 1937, at a contract cost of \$935. Toward this cost a contribution of \$500 was made by the county.

LAKE ANTHONY, OAK BLUFFS

Although the dredging of the entrance channel and basin at Lake Anthony under contract of April 1, 1936, with Herbert T. Gerrish ended November 10, 1936, certain shoal areas remained which could not be removed by the hydraulic dredge used for the greater part of the work.

To complete the dredging a letter contract with the Bay State Dredging and Contracting Company was made on March 29, 1937, for removal of the shoal areas to a depth of 6 feet at mean low water, at a contract price of 95 cents per cubic yard, scow measurement. This work was completed April 12, 1937, at a contract cost of \$1,376.55. The cost of this dredging was paid from funds available under the provisions of Chapter 464 of the Acts of 1935.

LEWIS BAY, YARMOUTH

Hearing was held January 27, 1937, on petitions of the Selectmen and of the Lewis Bay Yacht Club for dredging in Lewis Bay.

On June 7, 1937, a contract was made with the Bay State Dredging and Contracting Company to dredge a channel 100 feet wide on the bottom and 7 feet deep at mean low water, and a basin 6 feet deep at mean low water in Lewis Bay at West Yarmouth, at the following contract prices: for dredging and disposing of the dredged material 51 cents per cubic yard, scow measurement; for removing and disposing of boulders \$20 per cubic yard. This work was completed July 10, 1937, at a contract cost of \$8,835.75. Toward this cost the town made a contribution of \$5,000.

LOBSTER COVE, GLOUCESTER

Hearing was held January 27, 1937, on petitions of Brant M. Dexter and others for dredging in Lobster Cove.

A contract was made on July 14, 1937, with the Bay State Dredging and Contracting Company for dredging to a depth of 8 feet at mean low water a shoal area on Babson's Flats in Lobster Cove, at the following contract prices: for dredging and disposing of the dredged material 56 cents per cubic yard, scow measurement; for removing and disposing of boulders \$20 per cubic yard. The work was completed August 3, 1937, at a contract cost of \$4,928. Toward this cost a contribution of \$2,500 was made by the city.

MANCHESTER HARBOR, MANCHESTER

The dredging of an anchorage basin and channel in Manchester Harbor under contract of September 8, 1936, with the J. S. Packard Dredging Company was completed April 29, 1937, at a contract cost of \$38,197.28. Toward this cost a contribution of \$20,000 was made by the town.

MEGANSETT HARBOR, FALMOUTH

The building of a stone breakwater at Megansett Harbor under contract of September 8, 1936, with George M. Bryne was completed February 10, 1937, at a contract cost of \$23,267.84. Toward this cost a contribution of \$12,000 was made by the town.

NEW BEDFORD STATE PIER

On August 19, 1937, the Lamport Manufacturing Supply Company, Inc., ended its occupancy of a part of the State Pier at New Bedford. After the completion of the necessary repairs the whole pier will be available again for water borne commerce.

A contract with Maurice M. Devine, Inc., was made October 27, 1937, to repair and reconstruct certain portions of the cement plaster walls at the steel shed and to furnish and replace five window sash, at the following contract prices: for removing existing plaster and applying gunite to specified portions of the wall, the lump sum of \$1,100; for removing plaster and applying gunite to certain other portions of the wall, 40 cents

per square foot of wall surface; for applying a flash coat of gunite to certain other portions of the wall, 30 cents per square foot of surface; for removing five old window sash and furnishing and installing five new window sash, the lump sum of \$275. This work is now in progress.

On October 27, 1937, a contract was made with John F. Shea Company, Inc., for repairing and waterproofing the roof of the two-story steel shed at the following contract prices: for 5-ply tar and gravel roofing furnished and placed 11 cents for each square foot; for replacing old planks with new, including all labor, material and fastenings, 10 cents per square foot; for copper furnished and placed 50 cents per square foot. This work is now in progress.

A letter contract with Frank C. Taylor was made November 29, 1937, for furnishing, fitting and securing floating fender logs at the State Pier. This work is now in progress.

To provide for the use of this pier to its full capacity the Department is asking for an additional appropriation for movable drops upon the south side and for building unloading platforms on the second floor of the steel shed to allow the discharge of cargo directly to this floor, and for heavy floating fenders on the south side of the pier. No funds are yet available for this work.

Three steamship lines in coastwise traffic now make weekly stops at the pier and a load of lumber is occasionally received from the West Coast.

OAK BLUFFS SHORE PROTECTION

Hearing was held January 27, 1937, on petition of the Selectmen for protection of the shore at Oak Bluffs.

On August 3, 1937, a contract was made with Turner and Breivogel to build a stone jetty northerly of Nantucket Avenue in Nantucket Sound at Oak Bluffs, at a contract price of \$4.95 per ton of 2000 pounds of heavy stone riprap and stone chips furnished and placed in the completed work. This jetty was completed September 20, 1937, at a contract cost of \$1,983.66. Toward this cost a contribution of \$1,000 was made by the town.

A letter contract was made with Turner and Breivogel on September 23, 1937, for placing additional riprap in front of the bulkhead at the Highlands, at a contract price of \$4.50 per ton. This work was completed October 5, 1937, at a contract price of \$1,579.41.

On October 25, 1937, a letter contract was made with Turner and Breivogel for repairs to certain of the timber jetties extending from the sea wall along the water front at Oak Bluffs. The repairs are to be made by the use of creosoted yellow pine timber and piles at a contract price not exceeding a total cost of \$1,859.16. This work has not yet begun.

COMMONWEALTH PROPERTY AT PLYMOUTH

An appropriation of \$3,500 was made this year by the Legislature for expenses of the property at Plymouth acquired by the Pilgrim Tercentenary Commission and placed under the jurisdiction of the Department by vote of the Governor and Council on July 17, 1924. The usual care of the grounds and pier and the necessary minor repairs have been carried on during the year.

A letter contract with Arthur K. Finney was made on June 16, 1937, for placing about 80 cubic yards of gravel filling in the approach to the State Pier. This work was completed June 29, 1937, at a contract cost of \$44.

PROVINCETOWN HARBOR, PROVINCETOWN

By item 693a, Chapter 434 of the Acts of 1937, an appropriation of \$4,000 was made available for dredging at or near the public town wharf at Provincetown.

Proposals for this work, invited by public advertisement, were received

July 13, 1937. As all the bids exceeded the amount of the appropriation no further action has been taken.

PROVINCETOWN TERCENTENARY COMMISSION

During the year the land at Provincetown acquired by the Provincetown Tercentenary Commission and placed under the control of the Department June 23, 1926, has been cared for from funds appropriated for this area and the Province Lands. An employee has been kept at work during the summer to maintain the park in proper condition.

ROUGHAN'S POINT, REVERE

The work of building a concrete and steel sea wall, granite steps, solid filling and the placing of riprap at Roughan's Point, under contract of November 17, 1936, with M. F. Gaddis, Inc., was completed July 29, 1937, at a contract cost of \$137,254.49.

This project was carried out under the provisions of Chapter 358 of the Acts of 1936. In accordance with the terms of the statute the city of Revere made a contribution of \$42,500 toward the cost of the work.

SCITUATE SHORE PROTECTION

Under a letter contract of November 24, 1936, with Frank H. Barry certain minor repairs were made to sea walls at Scituate. The work was completed January 19, 1937, at a contract cost of \$1,799.53.

SENGEKONTACKET POND, OAK BLUFFS

Chapter 374 of the Acts of 1935, authorized the Department of Public Works to construct a channel 30 feet wide from Nantucket Sound to Sengekontacket Pond in Oak Bluffs, to build a bridge and approaches to carry the existing State highway between Oak Bluffs and Edgartown across said channel, and to build jetties on each side of the entrance of said channel in Nantucket Sound. The act provided for an appropriation of not more than \$12,500 by the State and required that no work be begun until the town of Oak Bluffs contributed and paid into the Treasury of the Commonwealth the sum of \$12,500.

The required contribution was paid by the town on December 5, 1936.

A contract was made on December 8, 1936, with Turner and Breivogel for excavating a channel from Nantucket Sound to Sengekontacket Pond, for constructing two stone jetties, for placing riprap on the channel slopes and for building a highway bridge and approaches in Oak Bluffs. The contract prices for this work were: for material excavated in proposed channel and disposed of within disposal areas, 45 cents per cubic yard; for removing and disposing of boulders, \$3.50 per cubic yard; for each ton of heavy stone riprap and stone chips furnished in place in the completed work \$4.50 per ton; for constructing by-pass, including all materials, plant, equipment, lights and incidental work \$285; for building bridge and approaches, unit prices. This work was completed July 24, 1937, at a contract cost of \$24,078.17.

TRURO SHORE PROTECTION

Pilgrim Beach

Hearing was held January 27, 1937, on petition of the Selectmen for the building of additional stone jetties at Pilgrim Beach.

On August 3, 1937, a contract was made with Louis A. Byrne for the construction of three stone jetties on the shore of this beach, at a contract price of \$4.15 for each ton of 2000 pounds of granite stone riprap and granite chips furnished and placed in the jetties. This work was completed September 21, 1937, at a contract cost of \$3,787.08. Toward this cost a contribution of \$1,000 each was made by the town and county.

VINEYARD HAVEN HARBOR, TISBURY

The dredging in Vineyard Haven Harbor requested by the Selectmen in the petition filed in 1936, was adopted as a PWA project toward the cost of which the Federal Government agreed to make a contribution of 45 per cent.

On December 8, 1936, a contract was made with the Bay State Dredging and Contracting Company to dredge an anchorage basin about 1400 feet long, 300 feet wide and 6 feet deep at mean low water, at the following contract prices: for dredging and disposing of the dredged material 26.7 cents per cubic yard, scow measurement; for removing and disposing of boulders \$20 per cubic yard. This work was completed April 8, 1937, at a contract cost of \$16,302.76.

WAQUOIT BAY, FALMOUTH AND MASHPEE

The building of a stone jetty on the westerly side of the entrance to Waquoit Bay in Falmouth, under contract of October 27, 1936, with Frederick V. Lawrence, was completed March 9, 1937, at a contract cost of \$19,102.17. Toward this cost a contribution of \$10,000 was made by the town of Falmouth.

Hearing was held in January 1936, upon a petition of the Selectmen of Mashpee for dredging in Waquoit Bay to provide a channel into Hamblen Pond.

On December 18, 1936, a letter contract was made with George H. Boyd and Edward R. Jones to dredge a channel at Dr. Warren's Point, so called, on the Mashpee side of Waquoit Bay, to a depth of 3 feet at mean low water and a width of 20 feet on the bottom, at a contract price of 50 cents per cubic yard. Toward the cost of the dredging contributions have been made of \$350 by the town of Mashpee and of \$150 by individuals, but the dredging has not been completed.

WELLFLEET SHORE PROTECTION

Hearing was held January 27, 1937, on petition of the Selectmen for the building of jetties to check erosion along the Wellfleet shore.

On June 29, 1937, a contract was made with Louis A. Byrne for building eight stone jetties on the shore at Wellfleet Harbor, at a contract price of \$3.37 for each ton of 2000 pounds of granite stone riprap and granite chips furnished and placed in the jetties. This work was completed September 14, 1937, at a contract cost of \$5,230.88. Toward this cost a contribution of \$1,500 each was made by the town and by the county.

WEST CHOP, TISBURY

Work under contract of November 25, 1936, with Frederick V. Lawrence for the placing of riprap at the base of the bank at West Chop, was completed February 13, 1937, at a contract cost of \$5,719.14. Toward this cost a contribution amounting to \$2,000 was made by property owners and a contribution of \$1,000 by the town.

WILD HARBOR, FALMOUTH

Hearing was held January 27, 1937, on petition of the Selectmen for dredging at Wild Harbor and for the building of a bulkhead at New Silver Beach.

On August 3, 1937, a contract was made with Herbert T. Gerrish to dredge a channel and shoals in Wild Harbor,—the channel to a depth of 8 feet at mean low water, 110 feet wide on the bottom at the outer end and 65 feet wide on the bottom from the jetty into the harbor. Certain shoals within the basin are to be removed to a depth of 6 feet at mean low water. The contract prices for the work are: for dredging and disposing of the dredged material on marsh or flats by the hydraulic process, 70 cents per cubic yard, measured in place; for removing and disposing

of boulders \$20 per cubic yard. This work was completed October 5, 1937, at a contract cost of \$4,886.70. Toward this cost a contribution of \$2,500 was made by the town.

YARMOUTH SHORE PROTECTION

The work of placing heavy stone riprap and stone chips along the shore at South Yarmouth Beach, under contract of October 6, 1936, with J. W. Nickerson was completed January 6, 1937, at a contract cost of \$6,881.57. Toward this cost contributions of \$2,000 each were made by the town and by the county.

Miscellaneous

GREAT PONDS

Jurisdiction over great ponds belonging to the Commonwealth was conferred upon the Board of Harbor and Land Commissioners by Chapter 318 of the Acts of 1888. This act applies to ponds containing in their natural state ten or more acres of land. Authority to sell and convey or lease, subject to the approval of the Governor and Council, any of the islands owned by the State in great ponds was later given by Chapter 379, Acts of 1904, now section 2, Chapter 91, General Laws.

During the year the Department has considered matters relating to: Alum Pond, Sturbridge; Bartlett Pond, Plymouth; Benton Pond, Otis; Big Pond, Otis; Congamond Lake, Southwick; Crossmans Pond, Kingston; Foster's Pond, Andover; Great Pond, Otis; Lake George, Wales; Lead Mine Pond or Quassac Lake, Sturbridge; Lower Naumbeag Pond, Ashburnham; Manchaug Lake, Douglas; Mary's Pond, Marion and Rochester; Musquashiat Pond, Scituate; Neck Pond, Kingston; Onota Lake, Pittsfield; Oyster Pond, Edgartown; Three Mile Pond or Brush Hill Pond, Sturbridge; Wenham Pond, Carver; Whalom Lake, Leominster; White Pond, Chatham; White Pond, Concord.

Surveys were made this year of the following great ponds:

Three Mile Pond, Sheffield

Area at time of survey	18.02 acres
Natural pond area	18.02 acres
Maximum depth	14.2 feet

White Pond, Concord

Area at time of survey	40.81 acres
Natural pond area	40.81 acres
Maximum depth	69.0 feet

Crossman's Pond, Kingston

Area at time of survey	19.81 acres
Natural pond area	12.93 acres
Maximum depth	9.8 feet

Billings Pond or Lake Wolomolopoog, Sharon

Area at time of survey	14.78 acres
Natural pond area	14.78 acres
Maximum depth	19.8 feet

Access to Great Ponds

Petitions have been pending this year signed by ten or more citizens of the Commonwealth requesting the establishment of a right of way for public access to Three Mile Pond or Brush Hill Pond in the town of Sheffield, White Pond in the town of Chatham and White Pond in the town of Concord. Hearing upon these petitions has been delayed to allow surveys to be made of these ponds. The surveys are now completed and public hearing is to be held early in December.

PROVINCE LANDS

By Chapter 470 of the Acts of 1893 the Board of Harbor and Land Commissioners was given general care and supervision of an area containing about 3,810 acres known as the Province Lands at Provincetown. At that time the area was stripped of trees, denuded of vegetation and the loose sand carried by the wind was filling ponds and menacing the harbor.

The work of reclaiming these lands was begun in 1894 and has been carried on ever since under the direction of the Board of Harbor and Land Commissioners and the successors to its powers and duties. A superintendent at Provincetown is in immediate charge of the work.

At present the first method followed is to check the movement of sand by covering the dune with brush which provides enough protection for the natural re-seeding of the beach grass. This work is followed by the transplanting of shrubs of which bayberry has been found very valuable for holding the sand particularly along the slopes of the dunes. After this preparation is completed the transplanting of trees begins and the reforesting of the area. In this way about 1,200 acres of these lands have been reclaimed.

During the year the work has been continued in accordance with these methods. Brush secured by clearing dead trees and brush from old forested areas has been spread over five acres of sand dunes. Five hundred bayberry shrubs have been transplanted, 10,000 pitch pines taken from the nursery to the dunes and 15,000 native pitch pine seedlings removed from the forest to the nursery to increase their fibrous root growth before planting them upon the dunes. Seedling Scotch broom has been used for roadside planting and native seed of sand peas, sumach and broom has been sown broadcast over the dunes.

The destruction of gypsy moth egg clusters and brown tail moth nests has been continued during the year.

The dike at Race Run has been repaired, parking areas and roadsides kept in condition and an additional mile of combination fire stop and truck trail built with sand piles for fire protection.

The sum of \$102.50 has been paid into the State Treasury this year from licenses issued for cultivating and picking cranberries on the bogs, for mowing meadows, and from permits for occupying areas on these lands.

STATE BOUNDARY LINES

This year bound No. 42, Attleboro-Pawtucket "F" on the Massachusetts-Rhode Island State line, was moved westerly, and bound No. 43, Attleboro-Pawtucket "F" was moved easterly because of new highway construction.

For a similar reason bound No. 187 on the Connecticut-Massachusetts State line was moved 40.46' westerly.

TOWN BOUNDARY LINES

During the year a new bound was set on the Needham-Wellesley town line to take the place of Needham-Wellesley 1 witness mark removed because of highway construction.

The Brewster-Orleans town line was redetermined and bounds reset in conformity with Chapter 356 of the Acts of 1935.

CONSERVING AND EQUALIZING THE FLOW OF WATER
IN RIVERS AND STREAMS

By Chapter 359, Acts of 1909, Chapter 564, Acts of 1912, and Chapter 84, Resolves of 1917, co-operation was established between the Commonwealth and the Water Resources Branch of the United States Geological Survey, so that results of work relating to the gauging of streams within the Commonwealth and other work of a similar character carried on by said survey have been obtained for use by the Department and are avail-

able for other Departments of the Commonwealth. Toward the cost of this work the Department has paid during the year \$5,000.

RE-ESTABLISHMENT OF CERTAIN TRIANGULATION STATIONS

By section 33, Chapter 91 of the General Laws, the Department is authorized to make such surveys and to do such other work as may be required by any order of the Land Court, to re-establish and permanently mark certain triangulation points and stations previously established in connection with the topographical survey of the Commonwealth, and the town boundary survey, which have been lost or destroyed and to obtain the geographical position of such new points and stations as may be required from time to time by the Court.

During the year the appropriation for this purpose has been used in conjunction with WPA funds to re-determine and mark triangulation stations in the southeastern part of the State.

MARINE BORER INVESTIGATION

The Department has this year continued its co-operation with the New England Committee on Marine Piling investigation and has maintained test boards in tide water at various locations in the State to determine the extent of the activities of the marine worms.

Examinations have been made by engineers of the Department of all pile and timber structures in tide water in the cities of New Bedford and Fall River. The investigation showed considerable damage to many of these structures. Conditions at one wharf in New Bedford were so serious that repairs were ordered and the use of the pier curtailed until the work was completed. In a few instances wharves were found in such unsafe condition from the depredations of the marine borers that owners were no longer using the structures.

LICENSES AND PERMITS

During the year 83 licenses were granted for work to be done in tide waters, great ponds, Connecticut River and Merrimack River, and 126 permits for miscellaneous purposes. The Department also approved 104 permits granted by cities and towns for the construction and maintenance of fish weirs in tide water.

FEDERAL APPROPRIATIONS AND EXPENDITURES

Federal appropriations and expenditures for the improvement of rivers and harbors in Massachusetts from the establishment of the Government to the close of the fiscal year ending June 30, 1937, are shown in the following tables furnished by the Chief of Engineers, U. S. Army:—

TABLE NO. 1—*Localities at which work was done during Fiscal Year 1937*

<i>Locality</i>	<i>Expenditures</i>	<i>Appropriations</i>
Newburyport Harbor	\$595,788.30	\$692,708.13
Gloucester Harbor and Annisquam River	593,147.44	593,147.44
Mystic River	812,213.00	816,684.84
Boston Harbor	15,806,123.51	15,834,058.72
Weymouth Fore River	865,403.23	904,650.00
Cape Cod Canal	29,542,790.33	30,319,202.51
Pollock Rip Shoals, Nantucket Sound	1,526,776.34	1,527,029.26
Chatham Harbor	31,571.36	31,571.36
Harbor of Refuge at Nantucket	773,965.53	773,965.53
Hyannis Harbor	224,450.36	224,450.36
Vineyard Haven Harbor	82,573.47	82,573.47
Total	\$50,854,802.87	\$51,800,041.62

¹ Exclusive of \$100,000 contributed funds.

TABLE NO. 2—*Localities at which work is not now in progress*

<i>Locality</i>	<i>Expenditures</i>	<i>Appropriations</i>
Lynn Harbor	\$814,750.77	\$814,750.77
Plymouth Harbor	511,253.36	511,253.36 ¹
Cross Rip Shoals, Nantucket Sound	48,837.20	48,837.20
New Bedford and Fairhaven Harbors	1,812,385.05	1,812,385.05
Fall River Harbor	790,149.49	790,149.49
Taunton River	383,838.10	383,838.10
Merrimack River	404,466.72	404,466.72
Malden River	149,950.00	149,950.00 ²
Sandy Bay, Cape Ann, Harbor of Refuge	1,941,478.00	1,941,478.00
Bass River	20,150.41	20,150.41
Buzzards Bay Harbor (Weepecket Rock)	2,500.00	2,500.00
Canapitset Channel	9,112.54	9,112.54
Cohasset Harbor	10,000.00	10,000.00
Duxbury Harbor	37,000.00	37,000.00
Edgartown Harbor (Marthas Vineyard)	30,000.00	30,000.00
Essex River	30,000.00	30,000.00
Hingham Harbor	38,316.58	38,316.58
Ipswich River	5,617.91	5,617.91
Kingston Harbor	8,940.09	8,940.09
Little Harbor, Woods Hole	18,000.00	18,000.00
Manchester Harbor	23,985.57	23,985.57
Marblehead Harbor	584.00	584.00
Powow River	50,940.72	50,940.72
Rockport Harbor	91,229.25	91,229.25
Town River	37,577.41	37,577.41
Wareham Harbor	95,997.30	95,997.30
Wellfleet Harbor	11,365.57	11,365.57
Westport Harbor and River	3,000.00	3,000.00
Winthrop Harbor	9,000.00	9,000.00
Woods Hole Channel	343,599.92	343,599.92
Beverly Harbor	246,690.41	246,690.41 ³
Salem Harbor	107,956.57	107,956.57
Dorchester Bay and Neponset River	128,176.44	128,176.44
Weymouth Back River	27,000.00	27,000.00
Scituate Harbor	126,590.98	126,590.98
Provincetown Harbor	348,062.72	348,062.72
Total	\$8,718,503.08	\$8,718,503.08

¹ Exclusive of \$108,400 contributed funds.² Exclusive of \$ 62,000 contributed funds.³ Exclusive of \$100,000 contributed funds.*Recapitulation*

	<i>Expenditures</i>	<i>Appropriations</i>
Total of Table No. 1	\$50,854,802.87	\$51,800,041.62
Total of Table No. 2	8,718,503.08	8,718,503.08
Total	\$59,573,305.95	\$60,518,544.70

CONTRACTS MADE BY THE DEPARTMENT OF PUBLIC WORKS

CONTRACT No.	Work	Contractor	Date
457	Commonwealth Pier 5, South Boston—reconstruction of platforms	Merritt-Chapman & Scott Corp.	Dec. 13, 1935
463	Commonwealth Pier 5, South Boston—reconstruction of platforms and pile protection at Head House	Bay State Dredging & Contracting Co.	July 14, 1936
465	Cotuit Harbor, East Bay, Lewis Bay, Barnstable—dredging	Bay State Dredging & Contracting Co.	July 1, 1936
467	Popponeset Bay, Barnstable, dredging channel and basin	Herbert T. Gerrish	July 21, 1936
468	Waquoit Bay, Falmouth—stone jetty	Frederick V. Lawrence	Oct. 27, 1936
470	Manchester Harbor—dredging	J. S. Packard Dredging Co.	Sept. 8, 1936
474			
475	Megansett Harbor, Falmouth—stone break-water	George M. Bryne	Sept. 8, 1936
476	Dennisport Shore—stone jetties	H. & J. Construction Co.	Sept. 22, 1936
477	South Yarmouth Beach—stone riprap	J. W. Nickerson	Oct. 6, 1936
478	Falmouth Shore protection—opposite Shore Street	Turner & Breivogel	Oct. 6, 1936
479			
479	Roughan's Point, Revere—sea wall	M. F. Gaddis, Inc.	Nov. 17, 1936
480			
480	Vineyard Haven Harbor, Tisbury—dredging	Bay State Dredging & Contracting Co.	Dec. 8, 1936
481	Sengekontacket Pond, Oak Bluffs—dredging channel, building jetties, and bridge.	Turner and Breivogel	Dec. 8, 1936
482			
482	Harwichport—stone jetties	Frederick V. Lawrence	Nov. 17, 1936
483	West Chop, Tisbury—shore protection	Frederick V. Lawrence	Nov. 25, 1936
485	Gloucester Fish Pier—construction and dredging of approaches	Bay State Dredging & Contracting Co.	Apr. 6, 1937
486			
486	Pemberton Point Sea Wall, Hull—repairs	Karl M. Fredrickson	Mar. 26, 1937
487			
487	West Bay, Barnstable—dredging	Bay State Dredging & Contracting Co.	June 7, 1937
489			
489	Lewis Bay, West Yarmouth—Dredging	Bay State Dredging & Contracting Co.	June 7, 1937

Condition of Work	Contract Price
Completed May 26, 1937	Unit prices.
Completed March 1, 1937	For removing existing platform, including piling and other structures, including all incidental work, the lump sum of \$4500.
Completed May 6, 1937	Unit prices. For dredging and disposing of dredged material 81 cents per cubic yard, scow measurement.
Completed June 9, 1937	For removing and disposing of boulders \$20 per cubic yard For dredging and disposing of excavated material on marsh and flats by the hydraulic process, including the construction of the necessary dikes and sluices or other barriers, 52 cents for each cubic yard of material measured in place.
Completed March 9, 1937	For removing and disposing of all boulders \$20 for each cubic yard.
Completed Apr. 29, 1937	For each ton of heavy stone riprap and stone chips furnished in place in the completed work, \$3.24. For dredging and disposing of dredged material, 55 cents per cubic yard, scow measurement.
Completed Feb. 10, 1937	For removing and disposing of boulders \$20 per cubic yard.
Completed Jan. 8, 1937	For each ton of heavy stone riprap furnished in place in completed work, \$3.45 for each ton of 2,000 pounds.
Completed Jan. 6, 1937	For furnishing and placing granite stone riprap and chips in the jetties, including all incidental work, \$3.75 for each ton of 2,000 pounds.
Completed Dec. 9, 1936	For each ton of stone riprap and stone chips furnished and placed in completed work, \$2.99 for each ton of 2,000 pounds. For steel sheet piling furnished and driven in completed work, \$74.01 for each ton of steel sheet piling.
Completed July 29, 1937	For all reinforcing steel furnished and placed in concrete cap 7.8 cents for each pound. For furnishing material and constructing concrete cap, including all incidental work, \$17.29 for each cubic yard of concrete measured in place in the completed work. For furnishing and driving steel sheet piling \$80 for each ton in completed work.
Completed Apr. 8, 1937	For furnishing materials for constructing concrete sea wall and stair wells including forms, tie rods, steel reinforcement, excavation and all incidental work, \$15 for each cubic yard of concrete measured in place in completed work.
Completed July 24, 1937	For furnishing and placing granite stone riprap and chips against sea side of sea wall, \$2.20 for each ton of 2,000 pounds in place in completed work. For furnishing materials for filling in place back of sea wall, including all incidental work, \$.60 for each cubic yard measured in place in completed work. For furnishing and setting each granite stone step in place, including all incidental work, \$18 for each step in place in completed work.
Completed Dec. 4, 1936	For dredging and disposing of dredged material 26.7 cents per cubic yard, scow measurement.
Completed Feb. 13, 1937	For removing and disposing of boulders, \$20 per cubic yard.
In progress	For material excavated in channel and disposed of within disposal areas, 45 cents per cubic yard. For removing and disposing of all boulders, \$3.50 per cubic yard. For each ton of heavy stone riprap and chips furnished in place in completed work, \$4.50 per ton. For constructing by-pass, including all materials, plant, equipment, lights, etc. \$285. For building bridge and approaches—unit prices.
Completed May 4, 1937	For furnishing and placing granite stone riprap and chips in the jetties, \$3.15 for each ton of 2,000 pounds. For each ton of 2,000 pounds of stone riprap or chips furnished in place in the completed work, \$5.10. For removal and disposal of existing structures, the lump sum of \$9,500. For dredging and disposing of material outside site of work, 28 cents per cubic yard, scow measurement. For dredging and disposing of material in areas to be filled, 20 cents per cu. yd. scow measurement. For removing boulders, \$5 per cubic yard. For removing ledge, \$35 per cubic yard, place measurement. For building pier—unit prices.
Completed July 29, 1937	For furnishing all labor and materials and building concrete footing under and in front of existing wall, including all excavation, back filling and incidental work, \$12 for each cubic yard of concrete placed in completed work.
Completed July 10, 1937	For furnishing all labor, materials, tools and equipment and doing all work necessary to patch the existing sea wall and fill the construction joints, the lump sum of \$100. For each ton of new stone riprap or chips furnished in place in the completed work, \$1.44 per ton of 2,000 pounds. For rehandling existing riprap and replacing it within the new work, including all incidental expense, the lump sum of \$15.00. For dredging and disposing of dredged material, 65 cents per cubic yard, scow measurement.
	For removing and disposing of boulders, \$20 per cubic yard.
	For dredging and disposing of the dredged material 51 cents per cubic yard, scow measurement.
	For removing and disposing of boulders, \$20 per cubic yard.

CONTRACTS MADE BY THE DEPARTMENT OF PUBLIC WORKS

CONTRACT No.	Work	Contractor	Date
490	Wollaston Dredging	J. S. Packard Dredging Co.	June 7, 1937
491	Dorchester Bay—dredging at Savin Hill Yacht Club	Bay State Dredging & Contracting Co.	June 7, 1937
492	Weymouth Fore River—Quincy and Weymouth—dredging	J. S. Packard Dredging Co.	June 7, 1937
493	East Bay, Barnstable—timber fence westerly of west jetty	Harry L. Jones	Oct. 27, 1937
494	Wellfleet Shore Protection—stone jetties	Louis A. Byrne	June 29, 1937
495	Gloucester Fish Pier—furnishing and installing equipment in the Stores Building and the Cold Storage Building	Frick Company	Aug. 3, 1937
496	Commonwealth Pier 5—fence in examination room	P. J. Dinn & Co.	July 13, 1937
498	Hyannis Harbor, Barnstable—dredging anchorage basin	Herbert T. Gerrish	July 14, 1937
499	Malden River—Dredging	Herbert T. Gerrish	July 13, 1937
500	Lobster Cove, Gloucester,—dredging	Bay State Dredging & Contracting Co.	July 14, 1937
501	Falmouth Heights & Menauhant Shore, Falmouth—stone jetties	Frederick V. Lawrence	July 14, 1937
502	Oak Bluffs—stone jetty near Nantucket Avenue	Turner & Breivogel	Aug. 3, 1937
503	Pilgrim Beach, Truro—stone jetties	Louis A. Byrne	Aug. 3, 1937
504	Katama Bay, Edgartown—excavation of channel	Turner & Breivogel	Aug. 3, 1937
505	Wild Harbor, Falmouth—dredging	Herbert T. Gerrish	Aug. 3, 1937
506	Brewster Shore—riprap	George M. Bryne	Aug. 25, 1937
507	Dennis Shore—stone jetties at Dennisport and Sesuit	George M. Bryne	Aug. 25, 1937
508	Harwich Shore—building stone jetty, repairing and extension of other jetties	Frederick V. Lawrence	Sept. 14, 1937
509	Gloucester Fish Pier—Stores building and Cold Storage building	H. L. Hauser Building Co., Inc.	Oct. 5, 1937
510	Barnstable—stone jetties at Squaw Island Road	Frederick V. Lawrence	Oct. 13, 1937
511	South Hyannis, Barnstable—stone jetty and riprap	George M. Bryne	Oct. 27, 1937
512	Malden River, Malden—dredging channel	North Atlantic Dredging Co.	Oct. 26, 1937
513	New Bedford State Pier—repairs to walls and windows	Maurice M. Devine, Inc.	Oct. 27, 1937
514	New Bedford State Pier—repairs to roof of steel shed.	John F. Shea Company, Inc.	Oct. 27, 1937
515	Witchmere Harbor and Herring River, Harwich—repairs to stone jetties	Louis A. Byrne	Oct. 27, 1937
516	Commonwealth Pier 5—resurfacing portions of floors	Warren Bros. Roads Co.	Nov. 2, 1937

AND IN FORCE DURING THE YEAR ENDING NOVEMBER 30, 1937

Condition of Work	Contract Price
Completed July 16, 1937	For dredging and disposing of dredged material 47 cents per cubic yard, scow measurement.
Completed July 3, 1937	For removing and disposing of boulders \$25 per cubic yard. For dredging and disposing of dredged material 45 cents per cubic yard, scow measurement.
Completed Aug. 30, 1937	For removing and disposing of boulders \$20 per cubic yard. For dredging and disposing of dredged material 58 cents per cubic yard, scow measurement.
In progress	For removing and disposing of boulders \$25 per cubic yard. For building timber fence 150 feet long, including all material, the furnishing of all plant, tools, labor and equipment and incidental work, the lump sum of \$494.76.
Completed Sept. 14, 1937	For furnishing and placing granite stone riprap and granite chips in the jetties, including all incidental work, \$3.37 for each ton of 2000 pounds in completed work.
In progress	For furnishing and installing in complete working order, in the Stores Building, and the Cold Storage Building at the Gloucester Fish Pier, the entire equipment required by specifications and plans, including all incidental work, the lump sum of \$207,186.00.
Completed Aug. 4, 1937	For furnishing all labor, materials, tools and equipment and performing all work necessary to construct and install complete a wire fabric fence in examination room, the lump sum of \$686.
Completed Nov. 30, 1937	For dredging and disposing of dredged material within disposal area or on marsh or flats by hydraulic process, including construction of necessary dikes and sluices or other barriers, 53 cents per cubic yard measured in place. For removing and disposing of boulders, \$20 per cubic yard.
Completed Oct. 21, 1937	For dredging and disposing of the dredged material on shore 44 cents per cubic yard measured in situ.
Completed Aug. 3, 1937	For removing and disposing of boulders \$20 per cubic yard. For dredging and disposing of dredged material 56 cents per cubic yard, scow measurement.
Completed Sept. 9, 1937	For removing and disposing of boulders \$20 per cubic yard.
Completed Sept. 20, 1937	For furnishing and placing granite stone riprap and chips in the jetties, \$3.24 for each ton of 2000 pounds.
Completed Sept. 21, 1937	For each ton of heavy stone riprap and stone chips furnished in place in completed work, \$4.95 for each ton of 2000 pounds.
Completed Aug. 30, 1937	For furnishing and placing granite stone riprap and granite chips in jetties, \$4.15 for each ton of 2000 pounds. For excavating channel, including disposition of all material, furnishing of all plant, tools, equipment and incidental work, the lump sum of \$1,745 for the completed work.
Completed Oct. 5, 1937	For dredging and disposing of excavated material on marsh or flats by hydraulic process, including construction of necessary dikes and sluices or other barriers, 70 cents per cubic yard of material measured in place.
Completed Oct. 12, 1937	For removing and disposing of boulders \$20 per cubic yard. For furnishing and placing heavy granite stone riprap and granite stone chips in the completed work, including all incidental work, \$3.08 for each ton of 2000 pounds.
Completed Nov. 6, 1937	For furnishing and placing heavy granite stone riprap and granite stone chips in the jetties, including all incidental work, \$3.08 for each ton of 2000 pounds.
Completed Nov. 9, 1937	For furnishing and placing granite stone riprap and chips in jetty, extension of two jetties and repairs to other jetties, \$3 for each ton of 2000 pounds.
In progress	For furnishing crane, operator, two men and all incidental work in rebuilding one jetty, \$7 for each hour for crane, operator and two men.
In progress	For furnishing materials and erecting complete in place the Stores Building above the piles and the Cold Storage Building above Elevation 8, with appurtenant structures and equipment, the lump sum of \$439,704; for excavation, foundations, steel concrete piles, etc., unit prices.
Completed Nov. 15, 1937	For furnishing and placing granite stone riprap and chips in jetties and returns, including all incidental work, \$2.70 for each ton of 2000 pounds in the completed work.
In progress	For each ton of 2000 pounds of granite stone riprap and granite stone chips placed in the completed work, \$2.47. For dredging and disposing of dredged material on shore 45 cents for each cubic yard measured in situ.
In progress	For removing and disposing of boulders \$20 for each cubic yard. For removing existing plaster and applying gunite, the lump sum of \$1,100.
In progress	For removing existing plaster and applying gunite to certain portions of wall as directed by Engineer, 40 cents per square foot of wall surface. For applying flash coat of gunite to other portions of wall, 30 cents per square foot of surface.
In progress	For removing five old window sash and furnishing and installing five new window sash, the lump sum of \$275.
In progress	For each square foot of 5-ply tar and gravel roofing furnished and placed, including all labor, materials and incidental work, 11 cents per square foot.
In progress	For replacing old planks with new, including all labor, material and fastenings, 10 cents per square foot.
In progress	For each square foot of copper furnished and placed, 50 cents per square foot.
In progress	For furnishing and placing broken stone in the jetties, including all incidental work, \$3.70 for each ton of 2000 pounds in the completed work.
In progress	For each cubic yard of material excavated and back filled in the completed work, including all incidental work, 80 cents per cubic yard.
In progress	Unit prices.

INDEX

	<i>General</i>	
Appropriations		7
Financial Statements		17
Expenditures		18
Summary of Income		17
General Activities of Department		1
Organization under Chapter 16, General Laws, as amended		1
Personnel		4
Recommendations for Legislation		6
Special Reports by Department of Public Works		5
	<i>Relating to Highways</i>	
Advertising Signs and Devices within the Public View		84
Bond Issue, Chapter 464, Acts of 1935, Projects		45
Bridges		63
Alterations, Repairs and Extensions		66
Bridges to replace bridges destroyed by flood		39 & 63
Built or Contracted for		63
Contemplated Bridges and Structures		67
Examinations, Reports, Estimates, etc.		66
Maintenance of—See State Highways		52
Permanent Bridges across Connecticut River and Merrimack River		37
Deerfield-Sunderland		37
Gill-Montague		37
Hadley-Northampton		37
Lowell, Central Bridge and others		37
Slades Ferry Bridge		37
Contracts, signed during the year		23
Co-operative Work, Supervision of Certain Expenditures by Cities, Towns, and Counties		21
Emergency Public Works Construction		45
Expenditures, Summary for the Year		18
Farm-to-Market Roads		55
Federal Aid in Constructing Highways		57
Allotments to Massachusetts		58
Mileage		58
Statement of Road Projects		58
Federal Funds		58
Works Program Grade Crossing Abolitions		61
Works Program Highways		58
Gas Tax, transfer of proceeds under Chapter 431, Acts of 1936		16
General Statement as to Surveys, Plans, Estimates and Other Work during the year		21
Grade Crossing Abolitions		47
Hayden-Cartwright Act		46
Highway Fund		17
Highway Improvements authorized by Special Acts		25
Materials Testing Laboratory		56
Monson State Hospital, Driveway		38
Petitions, Meetings and Hearings		23
Public Ways, Exclusive of State Highways, in certain Towns		79
Allotments or Contributions by the State and Towns		79
Expenditures in Various Counties and Towns		83
Towns where work has been contracted for		79
State Highways		23
Construction		24
Contracts entered into for work in various Municipalities		24
Expenditures in Various Counties and Municipalities		24
Maintenance and Repair		48
Expenditures in various Counties and Municipalities		48
Ordinary and Special Maintenance		51
Maintenance and Operation of Draw Bridges		52
Fall River-Somerset,—over Taunton River		52
Newburyport-Salisbury,—over Merrimack River		52
New Bedford-Fairhaven,—over Acushnet River		52
Quincy-Weymouth,—over Weymouth Fore River		53
Petitions received during the year		23
Reconstruction and Repair of State Highways damaged by floods		36
Removal of Snow and Ice from State Highways		51
Resurfacing and Widening		21 & 56
Roadside Maintenance and Development, Nursery at Sudbury		52
Sidewalk Construction along State Highways		55
Town and County Ways (Chapter 90, General Laws)		69
Allotments or contributions by the State, Towns and Counties		69
Expenditures in various Counties and Towns		77
Towns where work has been contracted for		69
Type of Road and Length contracted for		69
City and Town bridges, damaged by flood, reconstructed or repaired		39
Works Program Highways and Grade Crossing Abolitions		61

Works Progress Administration	55
Sidewalk Construction	55
Farm-to-Market Roads	55
Roadside Beautification	53
Traffic on Highways	57
Signs, Direction, Route, Warning, etc.	57
Traffic Control Signals and Regulations	57
Uniform Traffic Signs, Lights, Markings, etc.	57

Relating to Registry of Motor Vehicles

Accident Prevention	85
Accident Report Letters	91
Aircraft	88
Analysis of Court Abstracts received	93
Branch Offices	86
Comparative Statement showing Ratio of Yearly Registrations to Death and Injuries; and Suspensions, etc.	91
Eastern Conference of Motor Vehicle Administrators	94
Examinations for licenses	86
Expenditures, Analysis of, for the Fiscal Year 1937	95
Head Lamps, Tail Lamps and Reflectors	90
Insurance, Compulsory, Motor Vehicle Liability	87
Investigations and Prosecutions by Inspectors	91
Motor Vehicle Deaths, Injuries, Collisions	90
Motor Vehicle Accidents to Persons	90
Types of Collisions	90
Number of Persons Killed and Injured	90
Motor Vehicle Equipment, Periodic Inspection of	88
Brakes, Lights and Miscellaneous	89
School Bus Inspections	89
Property Damage	87
Registrations, Licenses, Fees	86
Expenses of the Registry of Motor Vehicles	95
Court Fines received by the Treasurer and Receiver General	95
Motor Vehicle Fees Rebated	95
Passenger Cars, Commercial Vehicles and Motor Cycles	86
Receipts, Analysis of	95
Total Receipts, credited Highway Fund, 1936	95
Revocations and Suspensions	92
Safety Work, Publicity for	97
Used-Car Section	94
Motor Vehicle Identification	94
Engine and Serial Numbers	94
Motor Vehicles Stolen	94
Reports	94
Dealers	94

Relating to Waterways and Public Lands

Barnstable Dredging	103
Cotuit Harbor, East Bay and Lewis Bay	103
Hyannis Harbor	103
Popponesset Bay	103
West Bay	104
Barnstable Shore Protection	104
Cotuit	104
South Hyannis	104
West Beach—Squaw Island Road	104
Boston Harbor	97
Commonwealth Flats at East Boston	99
Aircraft Landing Field—Boston Airport	99
Commonwealth Pier 1	100
Reclamation of Flats	99
Commonwealth Flats at South Boston	97
Commonwealth Pier 5	97
Development of Land South of Summer Street	98
Railroad Yards of the Commonwealth	98
Anchorage Basin	100
Dorchester Bay	100
East Boston—Cunard Docks	100
Hayward's Creek	102
Inspection of Structures in Tide Water	102
Malden River	100
Marine Borers	102
Point Pemberton Sea Wall	101
Surveys	102
Weymouth Fore River	101
Wollaston Dredging	101
Brewster Shore Protection	104
Cape Cod Canal Landing Pier, Bourne	104
Connecticut River	105
Flood Control	105
Works Progress Administration Projects	105
Conserving and Equalizing the Flow of Water in Rivers and Streams	113
Contracts made and in force during year ending Nov. 30, 1937	116

Dennis Shore Protection	105
Dennisport	105
Sesuit	105
East Bay, Barnstable	105
Falmouth Shore Protection	105
Falmouth Heights	105
Menauhant	105
Shore Street	105
Federal Appropriations and Expenditures in Massachusetts Rivers and Harbors to	114
June 30, 1937	106
Gloucester Fish Pier	112
Great Ponds	112
Access to:	
Crossman's Pond, Kingston	112
Billings Pond, or Lake Wolomolopoog, Sharon	112
White Pond, Concord	112
Three Mile Pond or Brush Hill Pond, Sheffield	112
Surveys	102
Harbor Cove, Gloucester	106
Harwich Shore Protection	106
Harwichport	106
South Shore	107
Herring River and Witchmere Harbor, Harwich	107
Income, Statement of	17
Katama Bay, Edgartown	107
Lagoon Pond, Oak Bluffs and Tisbury	107
Lake Anthony, Oak Bluffs	108
Lewis Bay, Yarmouth	108
Licenses and Permits	114
Lobster Cove, Gloucester	108
Manchester Harbor, Manchester	108
Marine Borers Investigation	114
Megansett Harbor, Falmouth	108
New Bedford State Pier	108
Oak Bluffs Shore Protection	109
Plymouth, Commonwealth Property	109
Provincetown Harbor, Provincetown	109
Province Lands	113
Provincetown Tercentenary Commission	110
Rivers, Harbors, Tide Waters and Foreshores outside of Boston Harbor	102
Roughan's Point, Revere	110
Scituate Shore Protection	110
Sengekontacket Pond, Oak Bluffs	110
State Boundary Lines	113
Town Boundary Lines	113
Triangulation Stations	114
Truro Shore Protection	110
Pilgrim Beach	110
Vineyard Haven Harbor, Tisbury	111
Waquoit Bay, Falmouth and Mashpee	111
Wellfleet Shore Protection	111
West Chop, Tisbury	111
Wild Harbor, Falmouth	111
Yarmouth Shore Protection	112